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Development of Army Facility Functionality Assessment Criteria and Procedures

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Abstract. This report describes the process for identifying building functionality criteria and assessing the functional capability of Army facility real property. The criteria are to be incorporated into a process to measure the functionality and performance of existing Army buildings for support of sustainment, restoration, and modernization (SRM) decisions. This process is based on a general functionality assessment framework developed for the BUILDER™ Sustainment Management System (SMS). BUILDER includes an algorithm and procedure for calculating a building functionality index (FI) based on a predefined set of criteria. The FI indicates any decrease in building performance due to technical obsolescence, user requirement changes, or new codes or standards. These generalized criteria are supplemented with Army-specific criteria based on current Army Standards and Army Standard Designs. In addition, facility functionality-related criteria from the Army Installation Status Report for Infrastructure (ISR-I) are identified and mapped to BUILDER criteria. This linkage provides a way to exchange information between ISR-I and BUILDER, creating the technical basis for an integrated facility management environment. This report presents the results of the work and offers recommendations pertaining to future integration efforts.

Executive Summary

Background

The Assistant Chief of Staff for Installation Management (ACSIM) is responsible for developing and publishing Army Facility Standards, and the U.S. Army Corps of Engineers (USACE) Centers of Standardization (COS) are responsible for implementing them in Army Standard Designs. These documents specify requirements and features for a newly constructed facility, but a vast majority of existing Army facilities were not built to comply with them. Nevertheless, it is necessary to evaluate the performance of existing facilities against the current facility requirements in order to understand how these facilities can support the Army's current and future projected technology and weapons systems. The Army's process to assess the condition, performance, and readiness of facilities is the Installation Status Report for Infrastructure (ISR-I). While the ISR-I criteria have been updated to distinguish between condition-related quality issues and mission-related issues, current Army Standards and Standard Designs are not fully incorporated into these mission criteria.

The BUILDER® Sustainment Management System (SMS)* has a generalized methodology to assess and measure the functional performance of a building. This functional performance relates to how effectively, safely, and efficiently a building performs its mission at any time during its life cycle. A building's functional performance state relates to the facility's suitability to function as intended and required for the mission. Changes in functionality are driven by factors such as user requirements, building codes, or obsolescence of materials and technology. Loss in functionality is qualitatively described through characteristics making a building less suitable for its mission as compared with a new facility specifically constructed for the same mission. By integrating the BUILDER functionality framework, the ISR-I mission criteria, and the Army design standards, an ISR-I facility assessment can identify the gaps between an existing facility and newly constructed facility built to the latest standard. This integration also allows assessment criteria from the ISR-I process to feed into BUILDER to calculate a Building Functionality Index.

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Objective and approach

The objective of this project was to identify the specific building configuration criteria embodied in Army Standards and Standard Designs to serve as the mission-related criteria for ISR. This project categorized the criteria for four Tier 1 mission-critical facility types: the Tactical Equipment Maintenance Facility (TEMF), the Company Operations Facility (COF), the Battalion Headquarters Facility, and the Brigade Headquarters Facility. These criteria were then organized and linked to BUILDER functionality sub-issues and ISR-I mission criteria, and a data element map was created. Guidance for incorporating information and assessment criteria was developed as part of this project. In addition, guidance was developed to explain how this information is incorporated into Army facility management systems.

Benefits

Inappropriate building layout, poorly chosen materials or equipment, code violations, etc., interfere with a building's capability to support its mission requirements. While the ISR-I assessment process attempts to identify facility requirements affecting readiness and mission, a formalized process to incorporate current Army Standards and Standard Designs into the assessment does not exist. The development of a formalized process for that purpose makes it possible for Army installations to evaluate their buildings and collect data relevant to current facility requirements and allows consistent comparison against the latest Army Standards and Standard Designs. In addition, the information collected for the ISR-I can feed into the BUILDER functionality assessment framework to calculate a Functionality Index value. It provides an impartial metric for justifying modernization needs and directly supports Goal 1 of the 2007 Defense Installations Strategic Plan (2007 Defense Installations Strategic Plan, http://www.acq.osd.mil/ie/download/DISP2007_final.pdf, p 6): to locate, size, and configure defense installation assets to meet the required capabilities of military forces. The Functionality Index promotes better targeted revitalization of existing inventories by identifying where SRM or facility repurposing is cost effective as compared with new construction. Finally, the ISR-I information serves as a sort of user manual for the facility, training the occupants on the latest features of their newly constructed facility to better understand how the facility was designed to be used.

Costs

Integration of the procedure into the existing Army process will result in at most incremental additional data collection effort.

Implementation and maintenance requirements

Army ISR-I criteria require modification to standardize the mission-related facility criteria and incorporate current Army Standards and Standard Design requirements. These modifications make it possible to assess facilities of different ages in comparison with a common and current baseline.

When the ISR-BUILDER data exchange linkage is in place, maintenance of the data in the BUILDER system may be accomplished during the normal ISR-I inspection process, by in-house personnel as usual, or through a contract work group. A training program will be necessary to ensure the accurate collection of facility data during assessment. Training consists of entering data into system, performing facility analysis, and running reports.

Finally, to address security and information assurance issues, the BUILDER SMS system requires Army and DoD Information Technology (IT) accreditation. BUILDER went through the Department of Defense Information Assurance Certification and Accreditation Process (DIACAP) in June 2009, and was granted an Authority to Operate (ATO) by the U.S. Army Information Systems Engineering Command in March 2010. Although the Army demonstration database for BUILDER is hosted on servers at ERDC-CERL, eventually the servers must be moved to an Army-central location to ensure optimized connection times across installations and to provide helpdesk support. This activity leverages the Army enterprise contract (CHESS) for services, per directive by the Assistant Chief of Staff for Installation Management (ACSIM), thereby lowering operating costs.

Recommendation

The research team recommends the ISR-I mission criteria be modified and appended to include facility-specific Army Standards and Standard Designs, as identified in the appendices to this report. In addition to including the latest standards as a baseline, such modifications will allow

BUILDER to import data from ISR-I component ratings to initially populate the installation database and then use that information to calculate a Functionality Index value. The technology to import these data was implemented as a data map, developed as part of this project, that links BUILDER functionality information to ISR-I criteria and Army Standard Design criteria.

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Unit Conversion Factors

Multiply	By	To Obtain
Acres	4,046.873	square meters
cubic feet	0.02831685	cubic meters
cubic inches	0.00001638706	cubic meters
degrees (angle)	0.01745329	radians
degrees Fahrenheit	$(5/9) \times (^{\circ}\text{F} - 32)$	degrees Celsius
degrees Fahrenheit	$(5/9) \times (^{\circ}\text{F} - 32) + 273.15$	kelvins
Feet	0.3048	meters
gallons (U.S. liquid)	0.003785412	cubic meters
horsepower (550 ft-lb force per second)	745.6999	watts
Inches	0.0254	meters
kips per square foot	47.88026	kilopascals
kips per square inch	6.894757	megapascals
miles (U.S. statute)	1.609347	kilometers
pounds (force)	4.448222	newtons
pounds (force) per square inch	0.006894757	megapascals
pounds (mass)	0.4535924	kilograms
square feet	0.09290304	square meters
square miles	2,589,998	square meters
tons (force)	8,896.443	newtons
tons (2,000 pounds, mass)	907.1847	kilograms
Yards	0.9144	meters

Preface

This study was conducted for the U.S. Army Assistant Chief of Staff for Installation Management (ACSIM) under Installation Technology Transfer Program (ITTP) Project FY09-38, “Functionality of Existing Buildings.” The technical reviewer for U.S. Army Installation Management (IMCOM) was Samuel Morris, Chief, Engineering Division, White Sands Missile Range; and the technical reviewer for ACSIM was Philip Columbus, DAIM-ODF.

The work was performed by the Engineering Processes Branch (CF-N) of the Facilities Division (CF), U.S. Army Engineer Research and Development Center – Construction Engineering Research Laboratory (ERDC-CERL). The ITTP Program Manager was Kelly M. Dilks, CEERD-CF-N. At the time of publication, Donald K. Hicks was Chief, CEERD-CF-N; L. Michael Golish was Chief, CEERD-CF; and Martin J. Savoie was the Technical Director for Installations, CEERD-CV-ZT. The Deputy Director of ERDC-CERL was Dr. Kirankumar Topudurti and the Director was Dr. Ilker Adiguzel.

COL Gary E. Johnston was the Commander and Executive Director of ERDC, and Dr. Jeffery P. Holland was the Director.

1 Introduction

1.1 Background

Army installations and infrastructure will require reconfiguration to comply with new Army policies related to transformation and modernization, realignment and joint basing, and federal facilities energy initiatives. Inappropriate building layout, poorly chosen materials or equipment, code violations, etc., interfere with a building's capability to support these mission requirements. Although the Installation Status Report for Infrastructure (ISR-I) is currently being restructured to more clearly distinguish mission-related issues from quality-related issues, a formalized process to incorporate Army design standards into the mission assessment criteria for the ISR-I does not exist.

The BUILDER® Sustainment Management System (SMS)* has a generalized methodology to assess and measure the functional performance of a building. This functional performance relates to how effectively, safely, and efficiently a building performs its mission at any time during its life cycle. A building's functional performance state relates to the facility's suitability to function as intended and required for the mission. Changes in functionality are driven by factors such as user requirements, building codes, or obsolescence of materials and technology. Loss in functionality is qualitatively described through characteristics making a building less suitable for its mission as compared with a new facility specifically constructed for the same mission. By integrating the BUILDER functionality framework with the ISR-I mission criteria and Army design standards, an ISR-I facility assessment can identify the gaps between an existing facility and newly constructed facility built to the latest standard. This integration also allows assessment criteria from the ISR-I process to feed into BUILDER to calculate a Building Functionality Index (BFI).

The BFI provides an objective metric for justifying facility modernization needs. This directly supports goal 1 of the 2007 Defense Installations Strategic Plan — to locate, size, and configure defense installation assets to meet the required capabilities of military forces. The BFI supports better-

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targeted revitalization of existing inventories by identifying where SRM is cost effective as compared with new construction. Other key policy drivers related to this project include:

- Army Regulation AR 420-1, Defense Readiness Reporting System (DRRS) Requirements for Q ratings
- Executive Order EO 13327, Federal Real Property Asset Management.

1.2 Objectives

The objectives of this project were to identify the specific building configuration criteria embodied in the Army Standards and Standard Designs to serve as the mission-related criteria for the ISR, and to identify methods and practices necessary to implement the criteria with a BFI that can function within the BUILDER SMS environment and support the ISR-I.

1.3 Approach

This project categorized Army Standards and Standard Design criteria for four Tier 1 mission-critical facility types: the Tactical Equipment Maintenance Facility (TEMF), the Company Operations Facility (COF), the Battalion Headquarters Facility, and the Brigade Headquarters Facility. The criteria were then organized and linked to BUILDER functionality sub-issues and ISR-I mission criteria, and a data element map was created. Guidance for incorporating information and assessment criteria was developed as part of this project. In addition, guidance was developed to explain how this information is incorporated into Army facility management systems.

The term *building performance* refers to how effectively, safely, and efficiently a building performs its mission at any time during its life cycle. A building's performance state, which changes during time in service, is reflected by two different indicators: the physical condition state and the functionality state. The physical condition state relates to a facility's general "physical fitness," and the functionality state relates to the facility's suitability to function as intended and required for the mission.

Changes in functionality are driven by factors such as user requirements, building codes, or obsolescence of materials and technology. Loss in functionality is qualitatively described through characteristics that make a building less suitable for its mission versus a new facility specifically constructed for the same mission. A qualitative value for loss of functionality

is established by identifying the percentage of the building that does not suit the mission well and determining the degree of adverse impact created by those characteristics.

A building-level functionality assessment and indexing approach captures both qualitative issues and quantitative functionality-loss metrics affecting facility performance. This approach considers 14 comprehensive functionality categories, listed below, related to current or future expected user requirements, technical obsolescence, codes, laws, and regulations:

1. Location – suitability of building location for mission performance
2. Building Size/Configuration – suitability of building size and layout for the mission
3. Structural Adequacy – capability of structure to support anticipated loads
4. Access – capability of building to support entry, navigation, and egress
5. Accessibility – level of compliance with the Architectural Barriers Act (ABA)
6. AT/FP – compliance with DoD antiterrorism/force protection requirements
7. Building Services – suitability of power, plumbing, telecommunications, security, and fuel distribution systems
8. Comfort – suitability of temperature, humidity, noise, and lighting for occupants
9. Efficiency/Obsolescence – addresses energy efficiency, water conservation, etc.
10. Environmental/Life-Safety – addresses issues such as asbestos abatement, lead-based paint, air quality, fire protection
11. Missing/Improper Components – availability and suitability of components necessary to support the mission
12. Aesthetics – suitability of interior and exterior building appearance for the mission
13. Maintainability – ease of maintenance for operational equipment
14. Cultural Resources – historic significance and integrity issues impacting utilization and modernization.

The BUILDER SMS provides a generalized framework for structuring a facility functionality assessment. The Assistant Chief of Staff for Installation Management (ACSIM) is responsible for developing and publishing Army Facility Standards, and the U.S. Army Corps of Engineers (USACE)

Centers of Standardization (COS) are responsible for implementing them in Army Standard Designs. These documents specify requirements and features for a newly constructed facility, providing a baseline from which to evaluate the performance of existing facilities against the latest facility requirements. The Army Standards and Standard Designs make it possible to better understand how the vast portfolio of existing facilities can support the Army's current and future projected technology and weapons systems, and thus they supplement BUILDER functionality criteria and the BFI. Facility functionality-related criteria from the Army Installation Status Report booklets for Infrastructure (ISR-I) are identified and mapped to BUILDER criteria as well. This linkage allows for information to be exchanged between the ISR-I and BUILDER, thus comprising an integrated facility management environment.

1.4 Mode of technology transfer

This project incorporates technology into the BUILDER SMS for future use by Army Department of Public Works (DPW) personnel to manage the sustainability and life cycle of building assets. Technology transfer efforts will include:

- development of Army functionality assessment process guidance
- linkage of BUILDER with Army Standards, Standard Designs, and ISR-I criteria
- information technology (IT) system integration into the Army facility management process and the corporate data warehouse.

BUILDER is a fully web-based enterprise software platform which currently supports SQL Server 7.0, 2000, and 2005 (including Express Edition). Support for Oracle is also planned for the near future. All user interface elements run in web browsers using standard HTML and JavaScript. The pilot implementation of the BUILDER database is currently hosted on servers located and supported at ERDC-CERL, Champaign, IL. Wide-scale usage of BUILDER at several Army installations will be transitioned to a centralized data server/support center as appropriate. The configuration provides fast, secure multiuser access and automatic periodic backups of the Army BUILDER database. BUILDER went through the Department of Defense Information Assurance Certification and Accreditation Process (DIACAP) in June 2009, and was granted an Authority to Operate (ATO) by the U.S. Army Information Systems Engineering Command in March 2010.

Support to Army BUILDER users requiring access to facility functionality information is provided via email or telephone. This support will be provided by the Army's enterprise contract (CHESS) for services. Technical assistance addresses detailed software and how-to questions, diagnoses problems, and documents software errors or bugs to be communicated to the system developer. Periodic onsite support may be required to configure server and database setup of the BUILDER SMS and coordinate IT integration with other Army facility management systems, including HQIIS, Army Mapper, ISR-I, and GFEBS. Annual user group meetings are planned to help identify and prioritize program enhancements and new features with the input by the user base.

2 Measuring Existing Building Functionality

2.1 Introduction

Building assets represent a significant portion of the infrastructure capital held by federal, state, and local agencies, as well as private organizations. In the United States alone, the total value of this building infrastructure capital runs well into the trillions of dollars. For example, the active military services are responsible for nearly 380,000 building facilities, estimated at a Plant Replacement Value (PRV) of \$435 billion (GAO 2003). In addition to the substantial investment these facilities represent, they also contribute a major role in support of the military's many missions.

Like all infrastructure domains, buildings provide services that enable the performance of processes and missions. When designing a building, the location, materials, and configuration are chosen to best support that purpose under the consideration of cost. As the building operates in service and ages, building materials, components, and systems deteriorate, leading to some less-than-optimal performance. This loss is determined through a condition assessment process and is measured by a condition metric. Building mission performance is also affected by obsolescence, which generally is not a result of condition deterioration. Instead, obsolescence is a result of changes in building user requirements, changes in building technologies, and changes in codes or regulations. For example, as mission and user requirements change, which is likely for permanent facilities, the building's capability to perform a new mission is also affected. This loss is determined through a functionality assessment and is measured by a functionality metric. While building condition is improved through repair and or restoration, an improvement in *functionality* is accomplished through facility *modernization*.

A consistent, measurable, and meaningful functionality metric related directly to building performance can help facility managers make more well informed building infrastructure investment decisions. This chapter describes the development of a standard building functionality assessment that produces in a functionality state metric.

2.2 Defining building performance

Building *performance* is defined as the behavior in service of a building for a specified use at a point in time (ASTM E 1480-92). It encompasses issues of mission support, building safety, resource efficiency, life-safety, etc. The building performance state is dependent on two individual but sometimes linked building attributes: the *physical condition state* and the *functionality state*. Together, the functionality index and condition index measures define a comprehensive performance index for the facility.

2.3 Condition state

The physical condition state relates the general health of the building. Physical deterioration of the building due to normal aging, excessive or abusive use, or poor maintenance causes a reduction in the building's ability to perform its mission as required. For example, a deteriorated and leaking roof can reduce the building's ability to provide a comfortable, moisture-free environment. Past facility maintenance management research has focused on defining, quantifying, and measuring the condition state of a building in a consistent, objective, and repeatable fashion. One such methodology is the distress survey condition assessment process that produces a Condition Index (CI) metric. The CI relates the condition of building components, systems, and the building as a whole on a 0–100 scale and reflects the presence of distresses adversely affecting the condition of the asset.

2.4 Functionality state

The functionality state is related to the building's inherent suitability to provide services for the functions or mission it was designed or is required to support. In theory the functionality state is independent of the condition state; it indicates the capability of a building to perform as required in the absence of all physical condition deterioration. Functionality loss due to an inefficient building layout, improper choice of materials or equipment, code violations, etc., can affect the building's ability to perform mission and meet user requirements. For example, a maintenance shop building that does not have the proper size and configuration to efficiently service current vehicles and equipment is less than fully suitable to perform its mission of supporting vehicle maintenance even if the building is in excellent physical condition.

Loss of functionality is qualitatively described by identifying issues inherent in the building and its design that lead to some less-than-optimal performance of mission when compared with a newly constructed building designed to incorporate all current requirements for mission support service. To classify the broad range of issues affecting the functionality state, building functionality loss is a result of one of three factors:

1. User requirements. As tenant requirements change, or the underlying designated mission changes, the building's capability to provide service to its users is affected.
2. Codes and regulation. As new building codes, regulations, or organizational policies take effect, the building must be adapted to the changes.
3. Materials and technology. As new technologies improve efficiency, maintainability, and overall performance of buildings, existing building components become obsolete and have lower capabilities in relation to the new baseline.

2.5 Functionality assessment framework

The functionality metric proposed here was developed to quantitatively describe the functionality state of a building, or a logical subset of a building such as an area or component. Since functionality is the counterpart to condition in describing total building performance state, for consistency this metric follows the methodology established for the CI. The CI is an ASTM standard for pavement condition measurement, and the procedure has been replicated for building, roof, and railroad track structure condition state measurements (ASTM D 5340-93). All index scales ranges from 100–0, with 100 being the ideal state.

In order to measure building functionality, a scale was first defined to correlate varying degrees of qualitative functionality descriptors. This scale is shown in Table 1. (See Appendix B for a full description of this table.) The intervals on the scale are arranged so the degree of functionality loss is proportional to a similar condition loss on the CI scale. The FI scale provides a way to communicate the suitability of the building to provide necessary service in support of its specified mission.

Table 1. Functionality Index interval descriptions.

FI	Building Functionality Description
100	No functionality problems exist in building. All user requirements are met, no components are obsolete, and the building is in full compliance with all codes and regulations.
86–99	One or more, up to a very few, non-critical or critical components suffer from varying degrees of functionality loss; and/or Up to a small number of components suffer from varying degrees of functionality loss; and/or One or more areas are experiencing slight functional impairment; and/or Building, as a whole, is only slightly functionally impaired.
71–85	More than a very few, but not many, non-critical or critical components suffer from varying degrees of functionality loss; or combinations of a few non-critical and critical components suffer from varying degrees of functionality loss, and/or Many components are experiencing varying degrees of functionality loss; and/or One or more areas are experiencing minor functional impairment, and/or Building, as a whole, is functionally impaired but only to a minor degree.
56–70	Many, non-critical and critical components suffer from varying degrees of functionality loss; and/or Large numbers of components are experiencing varying degrees of functionality loss, and/or One or more critical areas are experiencing moderate functional loss and other areas may be experiencing functional loss to a moderate or a lesser degree; and/or Building, as a whole, is functionally impaired to a moderate degree.
41–55	One or more critical areas are experiencing significant functional loss and other areas may be experiencing functional loss to a significant or lesser degree; and/or Building, as a whole, is functionally impaired to a significant degree.
26–40	One or more critical areas are experiencing extensive functional loss and other areas may be experiencing functional loss to an extensive or lesser degree; and/or Building, as a whole, is functionally impaired to an extensive degree.
11–25	The majority of areas are experiencing a functional loss to some degree with one or more being severe (total or nearly so); or Building, as a whole, is barely able to serve its intended or proposed use.
0–10	Building is totally unable to serve its intended or proposed use.

The FI methodology links the physical observations identified during a building functional assessment to the aforementioned functionality scale. Building characteristics that adversely affect functionality are generically referred to as *issues*.^{*} Through literature review and input from building subject matter experts (SMEs), the research identified 14 discrete functionality issue categories related to (1) user requirements, (2) technical obsolescence, or (3) codes, laws, and regulations. The 14 issue categories are listed in Table 2.

^{*} In the FI methodology, an *issue* is defined as one of 14 generalized categories affecting the functionality of a building; a *sub-issue* is defined as a detailed subordinate issue within any issue category that an assessor uses for rating purposes. The sub-issue pertains to the level at which observable problems are documented.

Table 2. Functionality issue categories.

Category	Description
Location	Suitability of building location to mission performance
Building Size/Configuration	Suitability of building/area size and layout for the mission required
Structural Adequacy	Capability of structure to support seismic, wind, snow, and mission-related loads
Access	Capability of building/area to support entry, navigation, and egress as required
Accessibility	Level of compliance with the Architectural Barriers Act
AT/FP	Compliance with Antiterrorism/force protection requirements
Building Services	Suitability of power, plumbing, telecom, security, and fuel distribution
Comfort	Suitability of temperature, humidity, noise, and lighting for facility occupants
Efficiency/Obsolescence	Addresses energy efficiency, water conservation, and HVAC zoning issues
Environmental/Life-Safety	Addresses issues such as asbestos abatement, lead paint, air quality, and fire protection
Missing/Improper Components	Availability and suitability of components necessary to support the mission
Aesthetics	Suitability of interior and exterior building appearance
Maintainability	Ease of maintenance for operational equipment
Cultural Resources	Historic significance and integrity issues impacting utilization and modernization

While these categories provide a general classification of building functionality issues, they do not provide the depth and detail required to appropriately measure functionality loss. Therefore, associated with each functionality issue category are one or more *sub-issues*. Each sub-issue uniquely describes a building-related problem that is actionable through application of a corrective procedure. For example, the Environmental / Health category includes sub-issues for asbestos, air quality, radon, lead paint, etc. Each of these sub-issues individually affects the functionality of the building to support mission in a safe and efficient manner for its occupants.

Each sub-issue has a specific definition and visual or technical criteria to be observed. The definition and criteria provide a building technician or professional assessing the building functionality with a set of instructions for evaluating whether a particular sub-issue is affecting the building. Using the standardized list of building sub-issues and the explicitly stated criteria for each sub-issue, the functionality evaluation procedure is a consistent and repeatable process. Sub-issues are detailed in Appendix A.

In addition to identifying sub-issues affecting a building's functionality, the assessment also determines a level of "severity." The severity indicates the effect a sub-issue has on operational, mission, and life safety service

capabilities. Three severity categories are distinguished using a Green / Amber / Red convention and are each discussed below:

1. Green – fully complies with the requirements of the sub-issue; it does not affect suitability to perform mission.
2. Amber – the issue is evident, affecting suitability to perform mission, but not to as significant a degree as described by Red.
3. Red – the issue is evident, greatly affecting suitability and capability to support performance of mission, and it creates significant risk in terms of life-safety and mission accomplishment.

In addition to identifying and recording the present functionality issues, the amount or density of each sub-issue negatively affecting building performance is also recorded. For example, an indoor air quality issue affecting approximately one quarter of the building based on total square footage would be assigned a density of 25%.

The presence and determined severity of each sub-issue, in addition to the measured density or percentage of the total building affected, is used to quantify functionality. Functionality loss is a function of (1) functionality sub-issue type, (2) sub-issue severity, and (3) sub-issue density. This relation is expressed mathematically through the weighted deduct-density model (Shahin 1976):

$$FI = 100 - \sum_{i=1}^I \sum_{j=1}^J a(I_i, S_j, D_{ij}) \times F(t, d)$$

where

FI = Functionality Index measure

I = number of individual building functionality sub-issues present

J = number of individual severity levels present for i^{th} issue.

$a()$ = functionality deduct value for sub-issue type I, severity S, and density D.

$F()$ = adjustment factor when multiple sub-issues are present based on total summed deduct t, and number of sub-issues present d.

2.6 Development of functionality deduct value models

The FI is developed and designed to simulate the rating obtained by an evaluation from a panel of SMEs. This is accomplished by applying rating scale theory (Hutchison 1963). In effect, the rating scale provides a translation between the functionality loss issues defined and discussed above with a meaningful numerical FI. This is done by soliciting the expertise of a panel of experts in a rigidly controlled rating session. To develop the FI using this method, the following assumptions are invoked:

- Functionality is a measurable attribute.
- Raters are capable of making quantitative judgments about functionality.
- The judgment of each rater can be expressed directly on an interval scale.
- Variability of judgment is a random error.
- Raters are interchangeable.
- Average individual rating values can be used to estimate rating scale values.

During the rating session, each rater was individually presented with a number of different functionality loss scenarios for a hypothetical building. To isolate the concept of condition from development of the functionality metric, the raters were instructed not to consider condition as a reason for functionality degradation. Each functionality sub-issue was presented, along with varying levels of severity and density. The panel was instructed to numerically rate the overall building functionality based on the individual sub-issue, severity, and density presented in each scenario. Each rating was based on the 0–100 scale described in Table 1, which explicitly describes functionality loss for discrete intervals on the index. This scale provides the guidelines for judging the functionality scenario presented, determining which interval was the best fit, and selecting the actual score within the interval. Adherence to the guidelines ensured consistency and reduced error.

2.7 Analytical approach

The functionality rating data obtained from the panel was compiled and analyzed to develop the models for translating the functionality sub-issues into quantitative deduct values. Results were organized based on functionality sub-issue type, severity, and density. Figure 1 shows data plotted for

the functionality sub-issue of Indoor Air Quality (IAQ), Medium Severity. This issue was rated by the panel at density levels of 1, 10, 25, 50, 100% of building affected, and the associated deduct in functionality is plotted for each rater. After outlier data were removed, the mean deduct value was computed and is represented on Figure 1 by the solid data points. Consequently, the middle trend line represents the density-deduct curve for the issue of medium-severity inadequate IAQ.

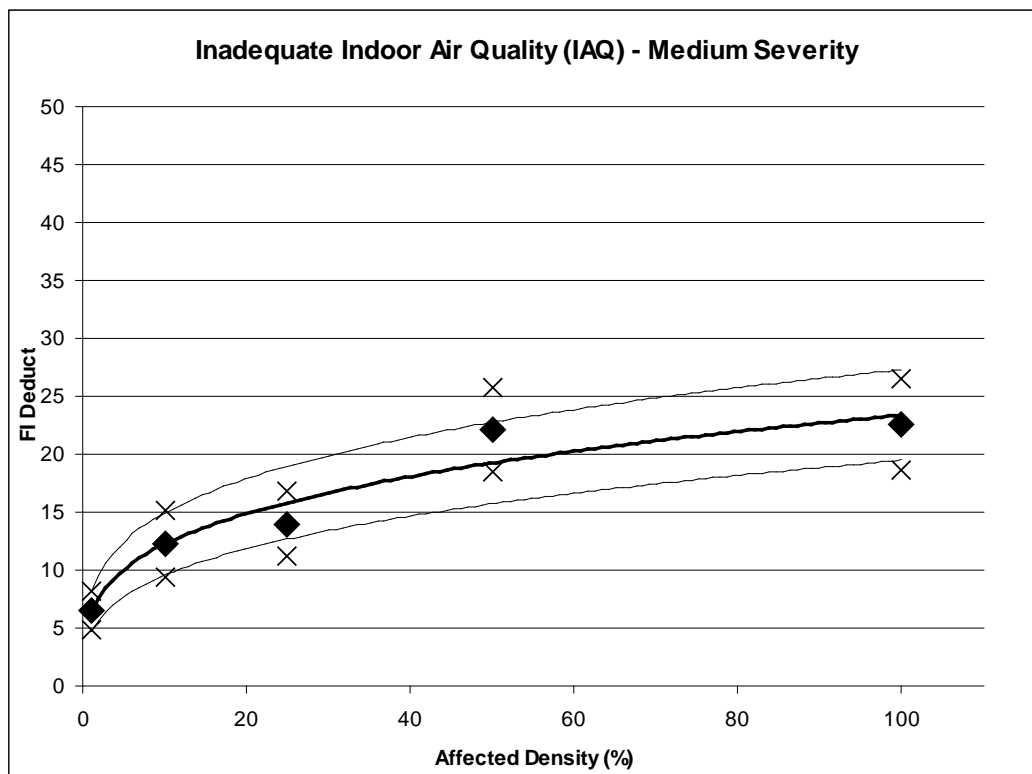


Figure 1. Example deduct rating data for IAQ.

The dotted envelope curves on Figure 1 represent the 95% confidence interval based on the rating data. The study required a sufficiently large pool of raters to limit the confidence interval to plus or minus 5 points of the mean density/deduct curve. This constraint allows a consistent and meaningful index to represent the SME panel with statistical rigor.

This data analysis was performed for each of the 126 unique functionality sub-issues affecting a building. Where the collected data indicated a large standard deviation for a sub-issue, that sub-issue was re-rated to correct rater mistakes and narrow the confidence intervals. As a result of this analysis, a mean density/deduct curve was developed for each functionality sub-issue type.

2.8 Adjusting for impact of multiple functionality issues

When multiple functionality sub-issues exist, the affect on functionality loss is not purely cumulative. If so, it is conceivable several functionality sub-issues could result in a overall building FI less than 0, which exceeds the bounds of the index metric. In addition, the phenomenon of “psycho-physics” results in a reduction in the influence of any given issue when additional issues are present (Weaver 1977). Therefore, a deduct correction factor is applied to the sum of the individual deducts to reflect the non-linear effect of additional functionality loss issues.

The adjusted deduct factor was derived by providing the SME panel with several scenarios containing multiple functionality loss issues. Depending on the nature of the issue and number of issues present, this overall rating score will result in a functionality deduct value somewhat lower than the sum of the individual issue deduct values as obtained above. By plotting the sum of the individual deduct values on the x-axis of a graph and the direct rating of the combined multiple issues on the y-axis, a correction factor for multiple issues was derived. This correction factor is represented by the slope of each line for the number of issues shown in Figure 2.

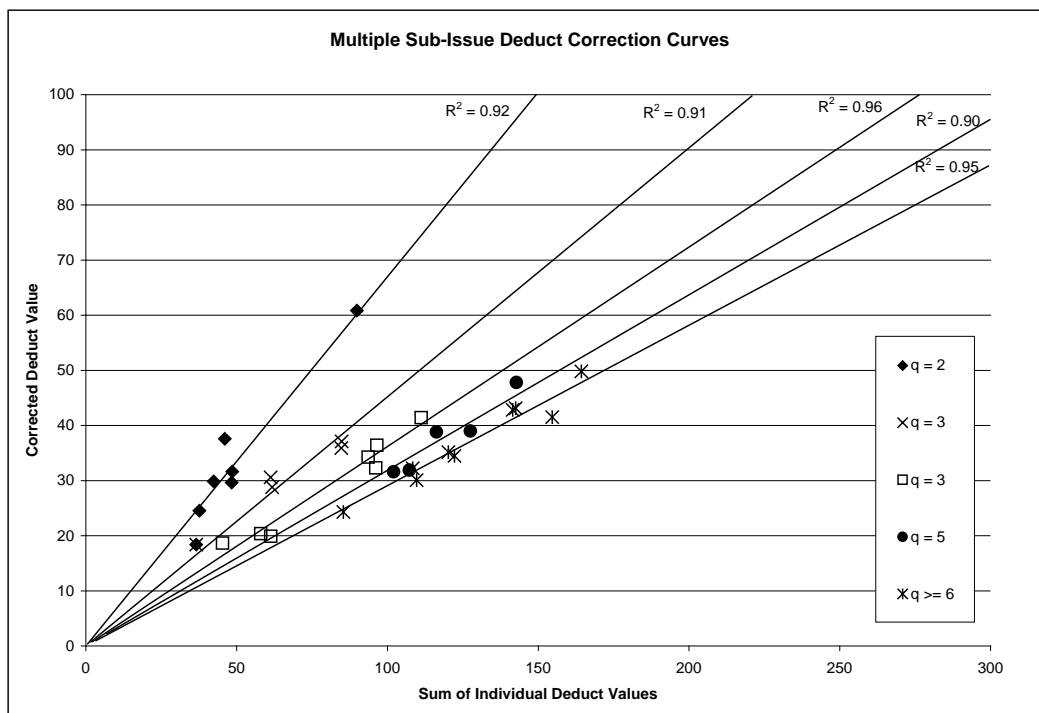


Figure 2. Adjusted deduct factor for multiple issues.

2.9 Calculating an FI

The data models for the functionality density/deduct curves and the multiple issue adjustment factors have been incorporated into the BUILDER SMS (BUILDER 2005), making BUILDER capable of automated calculation of an FI.

Each sub-issue is essentially presented as a question that the evaluator answers to determine the severity and affect on the building's suitability to support its mission. The answers to these issue questions determine the rating for the functionality issue category and are used to calculate the FI value for the building as a whole. These results are based on the observations of the functionality evaluator, with input from building users and maintenance personnel. The completion of the evaluation allows for a consistent, repeatable, and objective measure of functionality easily used to communicate the suitability of the building to its designated use and mission.

An example calculation for the FI is given below. In this example, two functionality issues have been identified that affect overall performance:

1. Medium Severity, Inadequate Indoor Air Quality. It is determined that an inadequate indoor air quality issue exists in the building, but it is not deemed to be a life-safety issue; therefore, the severity is rated as medium. This indoor air quality affects 50% of the total building area. Referring to the density/deduct curve in Figure 1 for this sub-issue, the functionality deduction is 19 points.
2. High Severity, Inadequate Electrical Distribution. It is determined that the facility has inadequate electrical distribution, which significantly impacts mission accomplishment; therefore, the severity is rated as high. This inadequate electrical distribution issue affects 10% of the overall facility, resulting in a deduction of 31 points.

Using the formula from page 11,

$$FI = 100 - \sum_{i=1}^I \sum_{j=1}^J a(I_i, S_j, D_{ij}) \times F(t, d)$$

the total sum of all deductions from the sub-issues identified is 19+31 = 50. However, since there are multiple issues, the aggregate index value is

reduced by the multiple issue correction factor, which is 0.67 for two issues. Thus, the overall building deduction is 34 points, and the building FI is measured to be $100 - 34 = 66$, which indicates moderate degradation.

2.10 Functionality metric for SRM decisions

The FI is important to building sustainment, restoration, and modernization (SRM) decisions because it is an objective metric. It indicates how suitably the building's inherent characteristics (size, location, configuration, etc.) support its designated purpose, including the safety and overall wellbeing of the building occupants. As planners evaluate different scenarios, the FI produced by the functionality assessment serves as a practical measure of the capabilities and performance of the existing infrastructure portfolio.

The FI also serves the dual role as an execution metric. When the functionality measure for a building falls below the minimum threshold standard defined by policy, as illustrated in Figure 3, modernization requirements are generated. Because the FI is an objectively obtained metric, it provides a defensible way to justify modernization needs.

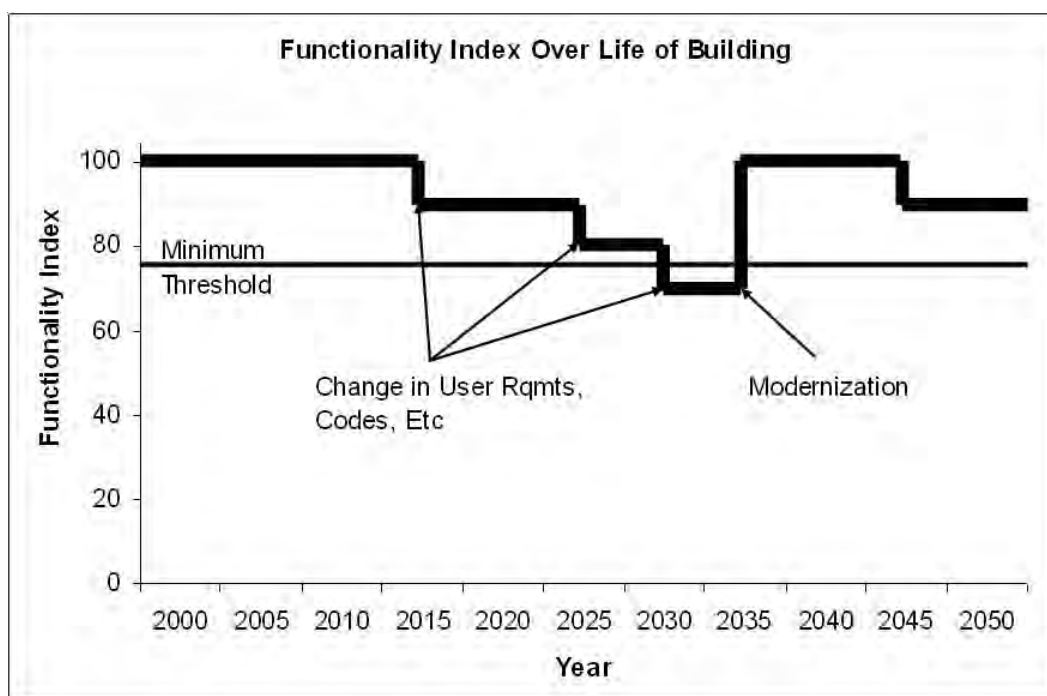


Figure 3. FI trend over time.

In addition to determining functionality requirements for a building's current purpose, the approach described here is used to perform functionality assessments to determine future requirements for a proposed purpose. For example, military base closures would require missions (along with the supporting personnel, material, and equipment) being transferred to other bases. The functional characteristics of existing buildings on the receiving bases are assessed to measure their ability to support a new proposed mission. This is the case if a new type of vehicle is scheduled to be stationed at the installation, and infrastructure modernization is required to support this new mission. Multiple what-if scenarios for different building uses and configurations can be assessed, and the results are used in the analysis of modernization requirements.

The building FI, coupled with the CI, provides a means for justifying building rehabilitation — which includes restoration and modernization — versus demolition and new construction. This method supports short- and long-range work plans developed on sound investment strategies, prioritization criteria, and budget constraints.

2.11 Conclusions

The functionality assessment process fills a previous gap with information necessary to more completely describe and quantify building performance. It provides a logical, scientific approach to quantifying the effects of changes in user requirements, codes, efficiency, and obsolescence. The resulting FI provides an objective, meaningful, and auditable measure of the infrastructure's capability to provide services to meet mission requirements. Together, the assessment process and index, in conjunction with previously developed condition-based metrics, enhances building SRM decision support by providing transparency to better realize and execute mission-focused facility objectives.

3 The BUILDER Functionality Assessment Framework

BUILDER system implementation is accomplished through the creation of a BUILDER database that consists of building- and component-level inventory information and periodically collected condition survey data. BUILDER analysis and simulation models are then applied to help managers determine candidate building work actions and the estimated cost of work. This chapter identifies the procedures for collecting facility-related data and populating the BUILDER system.

3.1 Functionality assessment overview

A new feature included in BUILDER 3.0 is the ability to perform functional assessments to measure a building's functionality state, as described in Chapter 2. Although the functionality assessment is not a detailed engineering assessment, it does satisfy the requirements necessary for routine facility management activities, including long-range budgeting and modernization planning. It also helps to quickly identify problem areas requiring detailed assessments. There are times when detailed engineering assessments may be required to diagnose specific problems.

Functional assessments are structured into a three-tiered, top-down approach to narrow the focus and provide greater assessment detail to the identified issues. This approach saves effort, reduces cost, and directs attention where needed. It also allows the identification and development of modernization requirements to efficiently flow from a broad strategic planning phase to a detailed execution phase. The assessment approach encompasses the three levels shown in Figure 4.

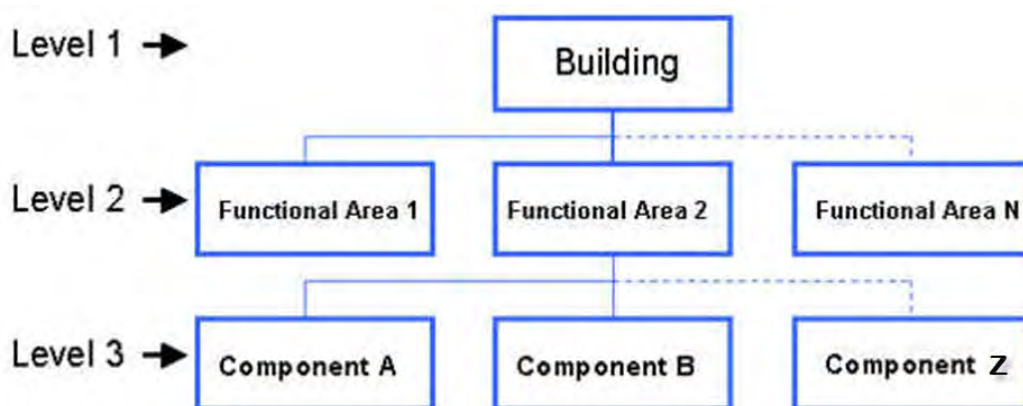


Figure 4. Functionality assessment hierarchy.

In BUILDER 3.0, functionality assessments are performed at the first and second tiers, i.e., the building and functional area levels. Later versions of BUILDER will include the third tier of functionality assessment at the component-section level.

3.2 Overview of the first tier of assessment

The first tier of the functionality assessment is a rapid scoping building-level assessment. Using a limited set of questions addressing general functionality issues throughout the building, the first tier provides a quick and accurate way to remove non-problem areas from further assessment, identify problem areas within the building requiring further assessment, and compute the Building Functionality Index (BFI). This level of assessment is performed when an overall indication of building functionality is desired to identify areas requiring further assessment.

3.3 Overview of the second-tier of assessment

The second tier of the functionality assessment is a methodical building functional area assessment. This level of assessment produces more accurate results than the first tier, but it usually requires more time. A complete list of functionality questions is used in the second-tier assessment to identify the specific functionality deficiencies in each functional area, compute the Functional Area Functionality Index (FAFI), and refine the BFI. This level of assessment is used when the functionality deficiencies within functional areas need to be identified and results from the first tier need refinement.

3.4 Functionality Index computation overview

All tiers of functionality assessment directly support the computation of the overall FI and the building's functional areas. The BFI and the FAFI both are general obsolescence metrics addressing the issues related to user requirements, technical obsolescence, and regulatory/code compliance at their respective levels of assessment.

As noted previously, all FI metrics are based on a scale of 0–100 that correlates with the CI metric used in the BUILDER SMS. BUILDER contains the model algorithms to compute FIs automatically after the functionality assessment data are entered. The algorithms use the data entered about the functionality issues present in the building, the severity of the issues, and the density of the issue to calculate the BFI. The process is illustrated in Figure 5.

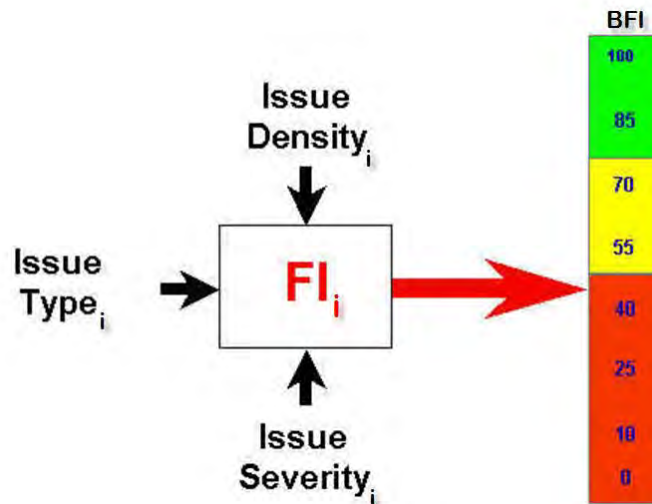


Figure 5. Building Functionality Index (BFI) model.

It is important to note the FI metrics are time-step functions — unlike the continuous functions seen in the CIs — because functionality, unlike condition, does not change gradually. Building or area functionality depends on user needs, degree of technical obsolescence, and compliance with code or regulations. These factors change at discrete points in time, not gradually like the condition of a roofing or electrical system.

3.5 Performing first-tier functionality assessments

First tier functionality assessments are associated with the building as a whole. With the addition of the Building Status property in BUILDER 3.0

it is possible to perform a functionality assessment considering the future (non-current) state of a building. This could be the case if a building is to be leased, transferred, or repurposed at some point in the near future. Assessments of non-current building states are performed in the same manner as current building states. Building-level functionality information is collected in the field using the assessment worksheet provided in Appendix C.

In BUILDER, the functionality assessment module is accessed by clicking on the Functionality Assessment button on the main menu bar (Figure 6).

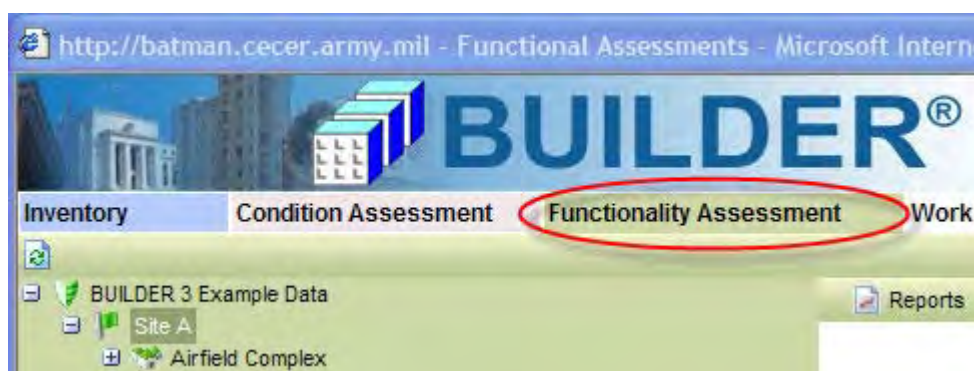


Figure 6. Access to the BUILDER functionality assessment module.

The functionality assessment navigation window appears. Navigate the tree to the building for which the functionality assessment is to be performed. The window shown in Figure 7 appears.

Issue	Issue FI	Last Assessment
Location	100	01/01/1978
Building Size and Configuration	100	01/01/1978
Structural Adequacy	100	01/01/1978
Access	100	01/01/1978
Accessibility	100	01/01/1978
ATFP	100	01/01/1978
Building Services	100	01/01/1978
Comfort	100	01/01/1978
Efficiency and Obsolescence	100	01/01/1978
Environmental/Health	100	01/01/1978
Missing or Improper Components	100	01/01/1978
Aesthetics	100	01/01/1978
Maintainability	100	01/01/1978
Cultural Resources		01/01/1978

Figure 7. BUILDER functionality assessment screen.

3.6 Functionality assessment data

After a building is selected, general data about the building are shown at the top of the screen. These data include the building number, building name, and the current BFI. Below this is additional information associated with functional assessments of the building:

- **Effective Assessment (Required).** Select the date of the functionality assessment you wish to see data for from the dropdown list. All functionality assessments previously recorded are accessible from this list. If you have created a new functionality assessment, the current date is shown in this field.
- **Assessment BFI (Read-Only).** Displays the BFI computed based on the data recorded for the assessment currently selected.
- **Assessment Description (Optional).** Enter a brief description on the functionality assessment.
- **Building Use Type (Required).** Select the building use type from the dropdown list most closely matching the building. If you are a Department of Defense activity, BUILDER displays familiar category codes for your service. This field is helpful when a building is being assessed against many use types to determine its optimal use type.
- **Status (Required).** Select the status of the current assessment from the dropdown list. The status options available for a functionality assessment in BUILDER 3.0 are:
 - **Active** – This is the functionality assessment currently applied to the building and is used to compute the current BFI.
 - **Past** – This is a past functionality assessment. These assessment data are not used when computing the current BFI.
 - **To Take Effect** – This sets the current functional assessment to a future year when user requirements, codes, or obsolescence are expected to change and affect the functionality of the building. These assessments are particularly useful for running long-range work planning scenarios.
- **Effective Year of Status.** Enter the year the status of the assessment becomes active, or effective in the building. This field will only appear if the status is set to "To Take Effect."

The actual assessment data are displayed and recorded in the grid in the lower portion of the screen and includes:

- **Issue (Read-Only).** Displays the 14 first tier functionality issues included in BUILDER 3.0. Expand the issues to show its sub-issues by using the "+" button next to the issue. If the sub-issues are expanded, they can be collapsed by clicking the "-" button next to the issue.
- **Rating (Read-Only).** Displays the FI rating for the issue computed from the ratings of its sub-issues.
- **Last Assessment (Read-Only).** Displays the date of the last functionality assessment for the issue.
- **Sub-Issue (Read-Only).** If the issues have been expanded, its sub-issues are shown in this column on the grid.
- **Sub-Issue Rating.** Enter the applicable rating data for the functionality sub-issues in the building. The rating for each sub-issue consists of a severity color rating along with a density range for some sub-issues. The hyperlinked text for each sub-issue provides a link to the definition and rating guidelines of the sub-issue.

Save New Copy Delete Reports

Building No: 6709 Building Name: Classroom Building Current BFI: 100

Functionality Assessment Functionality Trend

Effective Assessment: 06/23/2006 Assessment BFI: 77

Assessment Description: Modernization Evaluation

Building Use Type: 17136 - AUTOMATION-AIDED INSTRUCTIONAL BUILDING

Status: Active

Issue	Issue FI	Last Assessment
Location	77	06/23/2006
Building Size and Configuration	N/A	
Subissue	Rating	Comments
Does the building encourage an appropriate level of occupant interaction?	G+ A R N/A 1-10% Reset	Comments...
Is the building overcrowded?	G+ A R N/A 10-25% Reset	Comments...
Is the building configuration adequate?	G+ A R N/A 1-10% Reset	Comments...
Structural Adequacy	N/A	
Access	N/A	
Accessibility	N/A	
ATFP	N/A	
Building Services	N/A	
Comfort	N/A	
Efficiency and Obsolescence	N/A	
Environmental/Health	N/A	
Missing or Improper Components	N/A	
Aesthetics	N/A	
Maintainability	N/A	
Cultural Resources		

Figure 8. Functionality sub-issue rating screen.

3.7 Rating sub-issues with wizards

A *wizard* is required to help guide the rating for some sub-issues. To launch the wizard, click the WIZARD link included in the sub-issue row. The wizard for the sub-issue will appear in a new window, in which you

can complete the rating. Note you are not able to directly enter the severity rating or density from the sub-issue grid without going through the wizard.

3.8 Sub-issue comments

Additionally, comments shall be added as appropriate for each sub-issue by clicking the COMMENTS button in the sub-issue row. The comments window will appear in a new window. Enter any comments about the rating of the sub-issue and click CLOSE to close the window and save the changes.

4 Linkage of Army Standard Design Criteria to the FI Assessment Framework

Inappropriate building layout, poorly chosen materials or equipment, code violations, etc., interfere with a building's capability to support its mission requirements. The Army's existing process to assess the condition, performance, and readiness of facilities is the Installation Status Report for Infrastructure (ISR-I). While the ISR-I assessment attempts to identify facility requirements affecting readiness and mission, there is no formal process for incorporating current Army Standards and Standard Designs into the assessment procedure. By incorporating design standards into the ISR-I assessment, Army installations can evaluate their existing buildings and collect data based on the latest facility design requirements. Such an approach allows consistent comparison against the latest Army Standards baseline. In addition, the information collected from the ISR-I feeds into the BUILDER functionality assessment framework to help calculate an FI.

As previously noted, the ACISM is responsible for developing and publishing Army Facility Standards, and the USACE COSs are responsible for implementing them in Army Standard Designs. These documents specify requirements and features for a newly constructed facility, but a vast majority of existing Army facilities were not built to comply with them. Nevertheless, it is necessary to evaluate the performance of existing facilities against the current facility requirements in order to understand how these facilities can support the Army's current and future projected technology and weapons systems.

This project categorized the standard design criteria for four Tier 1 mission-critical facility types: the Tactical Equipment Maintenance Facility (TEMF), the Company Operations Facility (COF), the Battalion Headquarters Facility, and the Brigade Headquarters Facility. That information was then linked to BUILDER functionality sub-issues and ISR-I mission criteria, and a data element map was created. Several appendices to this report document guidance for incorporating information and assessment criteria and how that information is incorporated into Army facility management systems. Army standard design criteria categories for Tier 1 facilities are presented in detail in appendices D–G. An example breakdown and categorization of the design standard criteria for the TEMF is shown in Figure

9. The figure shows a small subset of standard design criteria organized by functional space, building components affected, and functionality issues affected, along with the actual requirement criteria.

Brigade Headquarters - BOC (if required) determined by TOE			
<i>Components Affected</i>	<i>Issue</i>	<i>Requirement</i>	<i>Reference Code</i>
Floor	Configuration	Raised access flooring or On ground flooring	
Brigade Headquarters - NOC			
<i>Components Affected</i>	<i>Issue</i>	<i>Requirement</i>	<i>Reference Code</i>
Floor	Configuration	Raised access flooring or On ground flooring	
Brigade Headquarters - SCIF			
<i>Components Affected</i>	<i>Issue</i>	<i>Requirement</i>	<i>Reference Code</i>
Floor	Configuration	Raised access flooring or On ground flooring	
Intrusion Detection	Security	Access control and intrusion detection for monitoring and controlling access	
	Access	Ground level access to the TSOA	
	Security	Protection from surreptitious entry	
	Security	Protection from forced entry	
Insulation	Sound Proof	Protection from Classified discussions being heard outside	
	Security	Protection from Implantation of technical surveillance devices	
	Security	Protection from visual observation	
	Security	Protection from stand-off technical attack	
Brigade Headquarters - Tactical SCIF Operations Areas (TSOA)			
<i>Components Affected</i>	<i>Issue</i>	<i>Requirement</i>	<i>Reference Code</i>
		Ground floor location	
	Location	Adjacent to the permanent SCIF	
		Vehicle shelters IAW DCID 6/9 or ICD 704	
		Telecom routed through DIA/DAC-22 approved PDS from Perm SCIF to TSOA	
		Fenced with CCTV monitored 24/7, locks, access control, intrusion detection	
Parking	Availability	Parking area for tow HMMWV vehicles with trailer provided adjacent to SCIF.	
Fencing	Security	A perimeter fence consisting of a 6-foot high chain link fabric topped by a single outrigger with three-strand barbed wire designed in accordance with STD 872-90-03, FE-6.	STD 872-90-03, FE-6
Pavement	Size	Provide 30-foot wide by 40 foot long rigid concrete pavement designed to support HMMWV vehicles with trailers	
Landscape	Spacing	A 10-foot wide zone clear of trees and shrubs is required on each side of the fence. Should require minimal maintenance, and the area 5 feet each side of the fence should have gravel.	
Transformers	Location	Not above ground in this area	
Generators	Location	Not above ground in this area	
Mechanical Equipment	Location	Not above ground in this area	

Figure 9. Example Army Standard Design Criteria.

This information is structured to fit within the component and subcomponent fields in the ISR-I criteria. It is also organized to fit within the BUILDER component inventory structure and functionality sub-issue framework.

5 Summary and Recommendations

5.1 Summary

The integration of the BUILDER SMS FI assessment framework into existing Army systems and processes offers implementation opportunities based on best practices and least costs. The Army ISR-I process is already in place to assess facilities, and it includes some mission-related functional aspects. (Army ISR-I criteria related to several Tier 1 facility types are listed in detail in appendices K–N.)

The research team concludes that integration of the Army Standards and Standard Designs with existing Army ISR-I mission performance criteria will provide more accurate data and better correlate with the latest Army design standards, which are based on current requirements for new state-of-the-art facilities. The leveraging of effective systems that are already in place will contain costs to only resources dedicated to incremental additional data collection. This integrated approach will make it possible to compare the performance of existing buildings with a common baseline. To accomplish this, Army ISR-I criteria would require some modification (i.e., standardization) in order to incorporate the latest Army Standards and Standard Design requirements.

Once ISR-I facility criteria are standardized, they would be linked to the BUILDER SMS functionality assessment framework in such a way that data collected through the ISR-I would be uploaded automatically to BUILDER. This automated linkage would produce a Building Functionality Index (BFI) value for each facility based on ISR-I mission criteria ratings. Using this approach, BUILDER data updates would be accomplished during the routine ISR-I inspection process. Figure 10 charts an overview of the integration process.

A training program is needed to support accurate and consistent collection of facility functionality information through the ISR-I criteria rating process. Annual ISR-I training is already provided for Army users, so any modifications to the mission-related facility criteria rating guidelines, system data entry, or reports generation will need to be included as part of this training process.

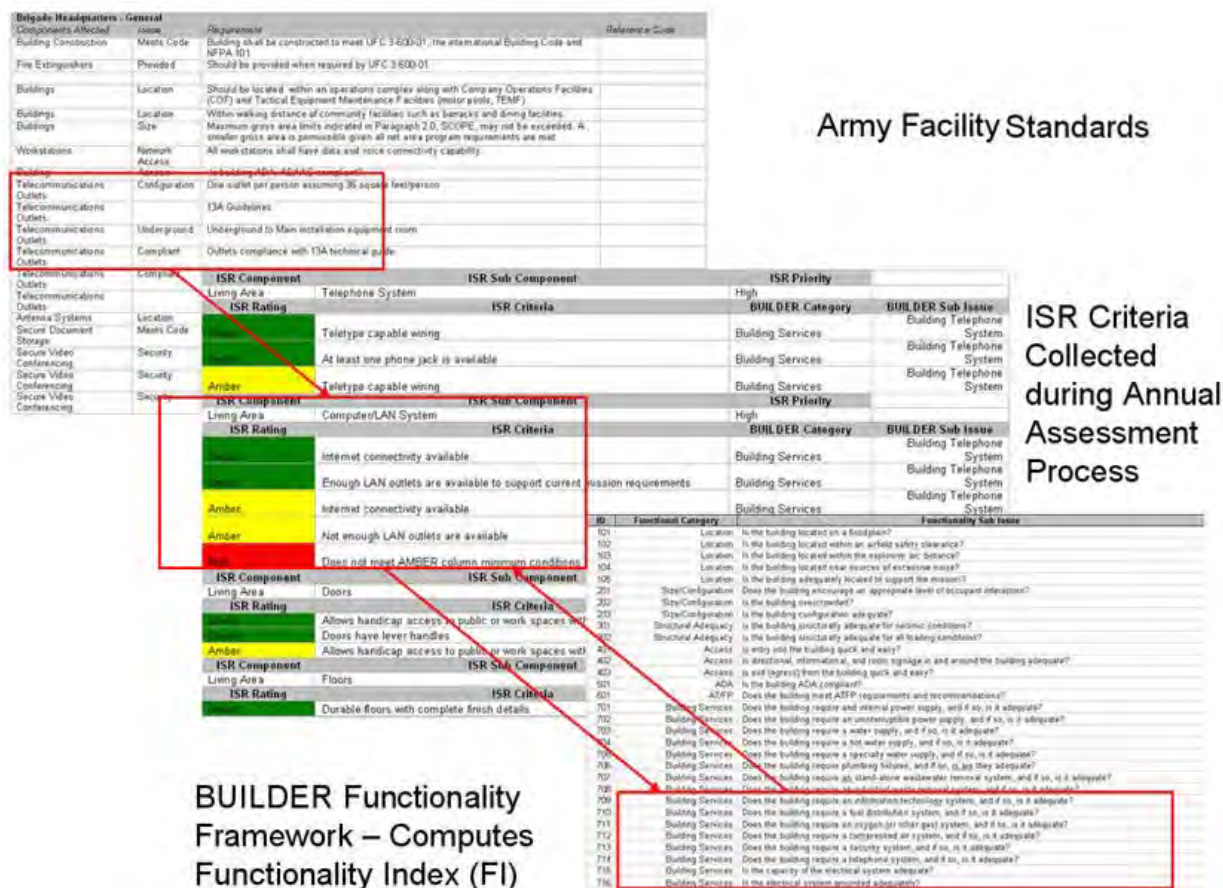


Figure 10. Integration process chart.

5.2 Recommendations

5.2.1 Enterprise IT platform

To effectively employ the BUILDER SMS for Army facilities, integration with other Army systems is required to provide a seamless management and reporting process (Figure 11). The project team recommends that detailed facility functionality criteria be stored in the BUILDER SMS for analysis of facility metrics used in SRM planning. BUILDER's open data architecture permits free communication with other electronic Army facility management systems and data repositories. Communication links between those systems and BUILDER can be created using web services and Extended Markup Language (XML) exchange features.

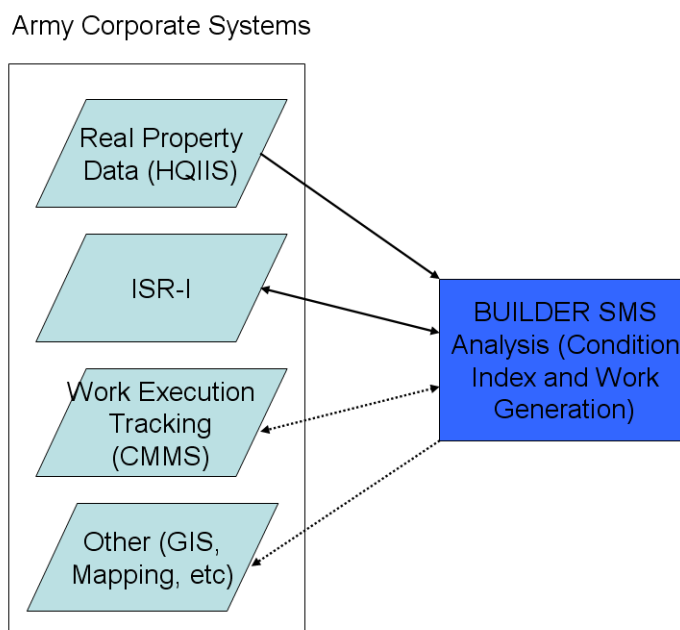


Figure 11. System integration.

5.2.2 Linkage to ISR

The ISR-I is the Army process that installation personnel use to report the condition and readiness of facility assets. Building tenants are primarily responsible for providing a condition/readiness rating based on standardized guidelines that consider several aspects of the facility. This process produces a green, amber, or red rating for each the building, which eventually gets rolled up by building Category Code. While the ISR-I assessment process attempts to identify facility requirements affecting readiness and mission, there is no formal process to incorporate current Army Standards and Standard Designs into the assessment. Development of a formal linkage between the ISR-I, Army Standards, and Standard Designs is recommended to enable Army installations to evaluate their existing buildings and to collect data based on the latest facility design. The linkage will facilitate consistent comparison of ISR-I results with the latest Army standards baseline. In addition, information collected from the ISR-I can feed into the BUILDER functionality assessment framework to calculate an FI value.

5.2.3 Integration with the General Fund Enterprise Business System (GFEBS)

GFEBS is an Army system being deployed to replace several major financial systems, and is used extensively by installation DPWs. Under GFEBS

architecture, BUILDER information would directly support the management of Property, Plant, and Equipment (PP&E) Inventory. Potential benefits include the tracking of asset value changes; depreciation, amortization, and depletion of assets; and maintenance, repair, and replacement of assets. To most effectively accomplish these tasks, Army personnel need an integrated approach that allows them to seamlessly develop annual work plans in BUILDER while utilizing GFEBS to actively manage the execution of these work projects. Because these systems will share real property and work information, an integration plan is required. To comprehensively identify the information and data flows required, a system analyst will need to evaluate the policy and guidance documents to align how assets are stored in each system, what external interfaces are available for exchanging data between systems, and the format for the messages passed between these systems.

5.2.4 Linking with Army Mapper

Army Mapper provides enterprise-wide GIS support. It is a geographic data repository for all installation infrastructures, and is used for master planning purposes. BUILDER open architecture allows for linkage of BUILDER data tables to this Army corporate GIS system for integration. The research team recommends this linkage, which would allow for building information, displayed via building footprint shapefiles, to be overlaid with other infrastructure domains, such as pavements, railroads, airfields, and other utilities. The integration of BUILDER and Army Mapper would provide a comprehensive view of the installation in native GIS architecture format.

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Acronyms and Abbreviations

ACSIM – Assistant Chief of Staff for Installation Management

BCI – Building Condition Index

BFI – Building Functionality Index

BPI – Building Performance Index

CERL – Construction Engineering Research Laboratory

CI – Condition Index

COBIE – Construction Operations Building Information Exchange

DPW – Directorate of Public Works

ERDC – Engineer Research and Development Center

FCI – Facility Condition Index

FI – Functionality Index

GFEBs – General Fund Enterprise Business System

GIS – Geographic Information System

HQ - Headquarters

HQIIS – Headquarters Installation Information System

IFS – Integrated Facilities System

IMCOM – Installation Management Command

ISR-I – Installation Status Report

IT – Information Technology

MDI – Mission Dependency Index

M&R – Maintenance and Repair

O&M – Operations and Maintenance

OSD – Office Secretary of Defense

PP&E – Property, Plant, and Equipment

PRV – Plant Replacement Value

RPUID – Real Property Unique ID

ROI – Return on Investment

SMS – Sustainment Management System

SRM – Sustainment, Restoration, Modernization

Appendix A: BUILDER SMS Building Level Functionality Issues

ID	Functional Category	Functionality Sub Issue
101	Location	Is the building located on a floodplain?
102	Location	Is the building located within an airfield safety clearance?
103	Location	Is the building located within the explosive arc distance?
104	Location	Is the building located near sources of excessive noise?
105	Location	Is the building adequately located to support the mission?
201	Size/Configuration	Does the building encourage an appropriate level of occupant interaction?
202	Size/Configuration	Is the building overcrowded?
203	Size/Configuration	Is the building configuration adequate?
301	Structural Adequacy	Is the building structurally adequate for seismic conditions?
302	Structural Adequacy	Is the building structurally adequate for all loading conditions?
401	Access	Is entry into the building quick and easy?
402	Access	Is directional, informational, and room signage in and around the building adequate?
403	Access	Is exit (egress) from the building quick and easy?
501	Accessibility	Is the building ABA compliant?
601	AT/FP	Does the building meet ATRP requirements and recommendations?
701	Building Services	Does the building require an internal power supply, and if so, is it adequate?
702	Building Services	Does the building require an uninterruptible power supply, and if so, is it adequate?
703	Building Services	Does the building require a water supply, and if so, is it adequate?
704	Building Services	Does the building require a hot water supply, and if so, is it adequate?
705	Building Services	Does the building require a specialty water supply, and if so, is it adequate?
706	Building Services	Does the building require plumbing fixtures, and if so, are they adequate?
707	Building Services	Does the building require an stand-alone wastewater removal system, and if so, is it adequate?
708	Building Services	Does the building require an industrial waste removal system, and if so, is it adequate?
709	Building Services	Does the building require an information technology system, and if so, is it adequate?
710	Building Services	Does the building require a fuel distribution system, and if so, is it adequate?
711	Building Services	Does the building require an oxygen (or other gas) system, and if so, is it adequate?
712	Building Services	Does the building require a compressed air system, and if so, is it adequate?
713	Building Services	Does the building require a security system, and if so, is it adequate?

ID	Functional Category	Functionality Sub Issue
714	Building Services	Does the building require a telephone system, and if so, is it adequate?
715	Building Services	Is the capacity of the electrical system adequate?
716	Building Services	Is the electrical system grounded adequately?
717	Building Services	Are the electrical outlets adequate?
801	Comfort	Does the building have the HVAC capacity to be heated adequately?
802	Comfort	Does the building have the HVAC capacity to be cooled adequately?
803	Comfort	Does the building have the HVAC capacity to be dehumidified adequately?
804	Comfort	Does the building have the HVAC capacity to be humidified adequately?
805	Comfort	Does the building have the HVAC capacity to be ventilated adequately?
806	Comfort	Are the HVAC controls adequate?
807	Comfort	Is there disruptive noise in the building?
808	Comfort	Is the building adequately lit?
809	Comfort	Are the lighting controls adequate?
901	Efficiency/Obsolescence	Is the equipment energy efficient?
902	Efficiency/Obsolescence	Is the building adequately zoned for HVAC?
903	Efficiency/Obsolescence	Are efficient lighting controls in use and adequate where applicable?
904	Efficiency/Obsolescence	Are efficient light fixtures in use and adequate where applicable?
905	Efficiency/Obsolescence	Are water conservation mechanisms in use and adequate where applicable?
906	Efficiency/Obsolescence	Are energy efficient windows and doors in use and adequate where applicable?
907	Efficiency/Obsolescence	Does the insulation meet building requirements?
1001	Environment/Life Safety	Is the lightning protection adequate?
1002	Environment/Life Safety	Is asbestos present in the building?
1003	Environment/Life Safety	Is the indoor air quality of the building adequate?
1004	Environment/Life Safety	Is lead paint present in the building?
1005	Environment/Life Safety	Is lead present in the building's water?
1006	Environment/Life Safety	Are PCBs present in the building?
1007	Environment/Life Safety	Is radon present in the building?
1008	Environment/Life Safety	Is the fire and smoke detection/warning system adequate?
1009	Environment/Life Safety	Are flammable and combustible materials adequately stored?
1010	Environment/Life Safety	Is the fire suppression equipment adequate?
1101	Missing/Improper Comps	Are all the necessary components present?
1102	Missing/Improper Comps	Is the correct type of each component present?
1201	Aesthetics	Does the quality and appearance of the exterior create a positive impression on the public and building occupants?
1202	Aesthetics	Does the quality and appearance of the interior create a positive impression on the public and building occupants?
1301	Maintainability	Does the design of or placement of equipment allow for easy maintenance?
1401	Cultural Resources	Does this building have any cultural resources (historical significance)?

Appendix B: BUILDER Functionality Index Interval Definitions

FI	Rating Definition	Modernization Needs
100	No functionality problems exist in building. All occupant/user requirements are met, no component-sections are obsolete, and the building is in full compliance with all codes and regulations.	None
86–99	One or more, up to a very few, non-critical or critical component-sections suffer from varying degrees of functionality loss; and/or Up to a small number of component-section inventory items suffer from varying degrees of functionality loss; and/or One or	Up to total modernization desired or required for up to a few component-sections or few inventory items (i.e. items that collectively make up a component-section) for given component-sections; or Minor modernization desired or required to certain building
71–85	More than a very few, but not many, non-critical or critical component-sections suffer from varying degrees of functionality loss; or combinations of a few non-critical and critical component-sections suffer from varying degrees of functionality loss, and	
56–70	Many, non-critical and critical component-sections suffer from varying degrees of functionality loss; and/or Large numbers of component-section inventory items are experiencing varying degrees of functionality loss, and/or One or more critical building fu	Up to total modernization required to significant numbers of component-sections or the inventory items for given component-sections; or Significant modernization required to one or more building functional areas; or major modernization required to small b
41–55	One or more critical building functional areas are experiencing significant functional loss and other building functional areas may be experiencing functional loss to a significant or lesser degree; and/or Building, as a whole, is functionally impaired to	
26–40	One or more critical building functional areas are experiencing extensive functional loss and other building functional areas may be experiencing functional loss to an extensive or lesser degree; and/or Building, as a whole, is functionally impaired to an	
11–25	The majority of building functional areas is experiencing a functional loss to some degree with one or more being severe (total or nearly so); or Building, as a whole, is barely able to serve its intended or proposed use.	Major modernization required to large portions of or the entire building; or Building relocation required.
0–10	Building is totally unable to serve its intended or proposed use.	

Appendix C: Example Building Functionality Assessment Sheet

Functionality Assessment Details			
General Information			
Bldg Number:			
Building Name:			
Building Use Type:	SF Area:		
Year Constructed			
Number Floors			
POC Name:		POC phone/email:	
Assessor Name:			
Assessment Date:			
Note: * Denotes Requirement			
Issue: Location		POC:	Date:
Sub-Issue		Rating	Density
Floodplain		G / A / R	N/A
Airfield Safety Clearance		G / A / R	N/A
Explosive Arc		G / A / R	N/A
Excessive Noise		G / A / R	N/A
Adequate for Mission Support		G / A / R	N/A
Building Size and configuration		POC:	Date:
Sub-Issue		Rating	Density
Occupancy Interaction		G / A / R	%
Overcrowding		G / A / R	%
Configuration		G / A / R	%
Structural Adequacy		POC:	Date:
Sub-Issue		Rating	Density
Seismic		G / A / R	%
Other Loading Conditions		G / A / R	%
Access		POC:	Date:
Sub-Issue		Rating	Density
Building Entry		Green	%
Directional Information		Amber	%
Egress		Red	%

Egress Wizard Results			
Exits		C / NC / NA	
	Appropriate Number	C / NC / NA	
	Free and Clear	C / NC / NA	
	Lead to Safe Place	C / NC / NA	
Routes		C / NC / NA	
Doors		C / NC / NA	
Stairways		C / NC / NA	
Ramps		C / NC / NA	
Accessibility	POC:	Date:	
Sub-Issue		Rating	Density
Non-Grandfathered Building		G / A / R	%
ABA Wizard Results			
Route of Travel to Building		C / NC / NA	
Parking and Drop of Area		C / NC / NA	
Entrance		C / NC / NA	
Doors		C / NC / NA	
Etc		C / NC / NA	
ATFP			
Minimum Standoff Distances		C / NC / NA	
Unobstructed Space		C / NC / NA	
Drive Up/Drop Off Areas		C / NC / NA	
Access Roads		C / NC / NA	
Parking Beneath Buildings		C / NC / NA	
Progressive Collapse		C / NC / NA	
Structural Isolation		C / NC / NA	
Building Overhangs		C / NC / NA	
Building Services			
Sub-Issue		Rating	Density
Interruptible Power Supply		G / A / R	%
Water Supply		G / A / R	%
Hot Water Supply		G / A / R	%
Comfort			
Sub-Issue		Rating	Density
Heated Adequately		G / A / R	%
Cooled Adequately		G / A / R	%
Dehumidified Adequately		G / A / R	%
Efficiency and Obsolescence			
	POC:	Date:	

Sub-Issue	Rating	Density
Equipment Energy Efficient	G / A / R	%
Efficiency Wizard Results		
Electrical	Non-Efficient	
HVAC	Non-Efficient	
Other	Non-Efficient	
Adequately Zoned	G / A / R	%
Efficient Lighting Controls	G / A / R	%
Efficient Lighting Fixtures	G / A / R	%
Water Conservation Mechanisms	G / A / R	%
Energy Efficient Windows and Doors	G / A / R	%
Building Insulation	G / A / R	%
Environmental/Health	POC:	Date:
Sub-Issue	Rating	Density
Lightning Protection	G / A / R	%
Asbestos	G / A / R	%
Indoor Air Quality	G / A / R	%
Lead Paint	G / A / R	%
Lead Water Levels	G / A / R	%
PCBs	G / A / R	%
Radon	G / A / R	%
Fire Detection System	G / A / R	%
Fire Suppression Equipment	G / A / R	%
Combustible Materials Storage	G / A / R	%
Missing or improper components	POC:	Date:
Sub-Issue	Rating	Density
Missing Components	G / A / R	%
Incorrect Component Types	G / A / R	%

Aesthetics		POC:	Date:
Sub-Issue		Rating	Density
Interior Aesthetics		G / A / R	%
Exterior Aesthetics		G / A / R	%
Maintainability		POC:	Date:
Sub-Issue		Rating	Density
Equipment		G / A / R	%
Chillers		G / A / R	%
Boilers		G / A / R	%
Other		G / A / R	%
		G / A / R	%
		G / A / R	%
Cultural Resources		POC:	Date:
Building on Historical Register		Y / N	

Appendix D: Army Standard Design Criteria for Brigade Headquarters Facility

Brigade Headquarters - General			
<i>Components Affected</i>	<i>Issue</i>	<i>Requirement</i>	<i>Reference Code</i>
Building Construction	Meets Code	Building shall be constructed to meet UFC 3-600-01, the international Building Code and NFPA 101	
Fire Extinguishers	Provided	Should be provided when required by UFC 3-600-01	
Buildings	Location	Should be located within an operations complex along with Company Operations Facilities (COF) and Tactical Equipment Maintenance Facilities (motor pools, TEMF)	
Buildings	Location	Within walking distance of community facilities such as barracks and dining facilities.	
Buildings	Size	Maximum gross area limits indicated in Paragraph 2.0, SCOPE, may not be exceeded. A smaller gross area is permissible given all net area program requirements are met.	
Workstations	Network Access	All workstations shall have data and voice connectivity capability.	
Building	Accessibility	Is building ABA compliant?	
Telecommunications Outlets	Configuration	One outlet per person assuming 36 square feet/person	
Telecommunications Outlets		13A Guidelines	
Telecommunications Outlets	Underground	Underground to Main installation equipment room.	
Telecommunications Outlets	Compliant	Outlets compliance with 13A technical guide	
Telecommunications Outlets	Compliant	SCIF compliant with DCID 6/9, Annex G or Intelligence Community Directive	
Telecommunications Outlets		Data outlets per 13A - user special ops requirements	
Antenna Systems	Location	Accommodation for line-of-sight to geostationary equatorial satellites	

Secure Document Storage	Meets Code	Secure documents storage IAW AR 380-5 requirements
Secure Video Conferencing	Security	Secure VTC in command conference room
Secure Video Conferencing	Security	Secure VTC in BOC
Secure Video Conferencing	Security	Secure VTC in SCIF
Private Offices	Size	Number specified by Brigade Size
Emergency Power	Backup	Backup power auto switch for power list and HVAC in Coms Rooms, Server Room, BOC, NOC, SCIF, TSOA

Brigade Headquarters - BOC (if required) determined by TOE

<i>Components Affected</i>	<i>Issue</i>	<i>Requirement</i>	<i>Reference Code</i>
Floor	Configuration	Raised access flooring or On ground flooring	

Brigade Headquarters - NOC

<i>Components Affected</i>	<i>Issue</i>	<i>Requirement</i>	<i>Reference Code</i>
Floor	Configuration	Raised access flooring or On ground flooring	

Brigade Headquarters - SCIF

<i>Components Affected</i>	<i>Issue</i>	<i>Requirement</i>	<i>Reference Code</i>
Floor	Configuration	Raised access flooring or On ground flooring	
Intrusion Detection	Security	Access control and intrusion detection for monitoring and controlling access	
	Access	Ground level access to the TSOA	
	Security	Protection from surreptitious entry	
	Security	Protection from forced entry	
Insulation	Sound Proof	Protection from Classified discussions being heard outside	
	Security	Protection from Implantation of technical surveillance devices	
	Security	Protection from visual observation	
	Security	Protection from stand-off technical attack	

Brigade Headquarters - Tactical SCIF Operations Areas (TSOA)

<i>Components Affected</i>	<i>Issue</i>	<i>Requirement</i>	<i>Reference Code</i>
		Ground floor location	
	Location	Adjacent to the permanent SCIF	
		Vehicle shelters IAW DCID 6/9 or ICD 704	

		Telecom routed through DIA/DAC-22 approved PDS from Perm SCIF to TSOA	
		Fenced with CCTV monitored 24/7, locks, access control, intrusion detection	
Parking	Availability	Parking area for tow HMMWV vehicles with trailer provided adjacent to SCIF.	
Fencing	Security	A perimeter fence consisting of a 6-foot high chain link fabric topped by a single outrigger with three-strand barbed wire designed in accordance with STD 872-90-03, FE-6.	STD 872-90-03, FE-6
Pavement	Size	Provide 30-foot wide by 40 foot long rigid concrete pavement designed to support HMMWV vehicles with trailers	
Landscape	Spacing	A 10-foot wide zone clear of trees and shrubs is required on each side of the fence. Should require minimal maintenance, and the area 5 feet each side of the fence should have gravel.	
Transformers	Location	Not above ground in this area	
Generators	Location	Not above ground in this area	
Mechanical Equipment	Location	Not above ground in this area	

Brigade Headquarters - Physical Security Zones

<i>Components Affected</i>	<i>Issue</i>	<i>Requirement</i>	<i>Reference Code</i>
	Security	Zone 1 - limited access for physical and personnel security for:	
	Security	Zone 2 - Controlled access for operational & information security for:	
	Security	Zone 3 - Restricted access with electronic access control (BOC, NOC, SCIF, TSOA)	

Brigade Headquarters - Administrative Facilities

<i>Components Affected</i>	<i>Issue</i>	<i>Requirement</i>	<i>Reference Code</i>
Interior Construction	Configuration	Provide centralized areas for photocopier, laser printer and fax machine with waste and paper recycling receptacles and supply cabinet for paper storage in each office area.	

Brigade Headquarters - Showers			
<i>Components Affected</i>	<i>Issue</i>	<i>Requirement</i>	<i>Reference Code</i>
Showers	Provided	Provide 1 female shower and 2 male shower	
Brigade Headquarters - Staff Duty Station			
<i>Components Affected</i>	<i>Issue</i>	<i>Requirement</i>	<i>Reference Code</i>
Staff Duty Station	Location	Located at each entrance/reception area	
Brigade Headquarters - Exterior Lighting			
<i>Components Affected</i>	<i>Issue</i>	<i>Requirement</i>	<i>Reference Code</i>
Exterior Lighting	Access	Sidewalks, service yards and parking areas shall have exterior lighting.	
Brigade Headquarters - Privately Owned Vehicles (POV) Parking			
<i>Components Affected</i>	<i>Issue</i>	<i>Requirement</i>	<i>Reference Code</i>
Parking	Availability	POV parking to be provided at the ratio of one space for 90% of the intended HQ staff capacity	
Brigade Headquarters - Building Entrances			
<i>Components Affected</i>	<i>Issue</i>	<i>Requirement</i>	<i>Reference Code</i>
Building Entrance	Aesthetics	Provide attractive entry features such as canopies and large glass wall surfaces, ensuring compliance with Anti-Terrorism/Force Protection requirements.	
Brigade Headquarters - Office and Admin Areas			
<i>Components Affected</i>	<i>Issue</i>	<i>Requirement</i>	<i>Reference Code</i>
Staff Sections	Configuration	Office sections should be separated by walls or floors.	
Private Offices	Configuration	Private offices should be separated by walls or floors and should have doors for privacy.	
Command Offices	Configuration	Should be built as a more permanent construction with sound insulation, but still with minimal load bearing walls so as to accommodate future reconfiguration.	
Headquarters	Configuration	Should be built as a more permanent construction with sound insulation, but still with minimal load bearing walls so as to accommodate future reconfiguration.	
Brigade Headquarters - Message Center			
<i>Components Affected</i>	<i>Issue</i>	<i>Requirement</i>	<i>Reference Code</i>
Mail Room	Security	Provide adequate security for mail storage and distribution.	

Doors	Components	Structural requirements are as follows: Provide doors with suitable locks and door hinges.
Lock		Shall be key-operated, mortised, or rim-mounted lock; have a dead bolt throw one inch; be a double cylinder design; have five pin tumbler cylinders; with two of mushroom or spool-type drive pin design.
Windows	Security	Ground-level windows shall have bars.
Windows	Security	Cover above ground level windows with wire mesh security screen.
Walls	Material	Shall be made of material to prevent forcible entry.
Ceilings	Material	Shall be made of material to prevent forcible entry.
Security System	Provided	Provide provisions for ICIDS (Internal Commercial Intrusion Detection System) in facilities that are not operational on a 24-hour basis.

Brigade Headquarters - Secure Documents Room

<i>Components Affected</i>	<i>Issue</i>	<i>Requirement</i>	<i>Reference Code</i>
Secure Documents Room	Configuration	Located in the S-2 area of building and constructed in accordance with AR 380-5 and classified for Open Storage.	AR 380-5

Brigade Headquarters - Network Operations Center

<i>Components Affected</i>	<i>Issue</i>	<i>Requirement</i>	<i>Reference Code</i>
Network Operations Center	Configuration	The NOC shall be designed and constructed as a secure room in accordance with AR 380-5 and classified for Open Storage	AR 380-5

Brigade Headquarters - Brigade Operations Center

<i>Components Affected</i>	<i>Issue</i>	<i>Requirement</i>	<i>Reference Code</i>
Brigade Operations Center	Configuration	The BOC will accommodate Gov-Furn television screens and monitors. Designed and constructed as a secure room in accordance with AR 380-5 and classified for Open Storage.	

Brigade Headquarters - Sensitive Compartmented Information Facility

<i>Components Affected</i>	<i>Issue</i>	<i>Requirement</i>	<i>Reference Code</i>
Sensitive Compartmented Information Facility	Configuration	The SCIF shall be designed and constructed for accreditation in accordance with DCI Directive 6-9 and classified for open storage.	

Brigade Headquarters - Telecommunications Rooms			
<i>Components Affected</i>	<i>Issue</i>	<i>Requirement</i>	<i>Reference Code</i>
HVAC	Provided	Served by an independent and dedicated air-handling system. Air handling system(s) shall not be floor-space mounted within the actual space served.	
Network	Provided	Space for classified network, unclassified network, and voice. Space shall be added for users secure and non-secure telecommunications equipment such as Private Branch Exchange (PBX), network switches, routers, servers, and storage.	
Room	Size	Sized and designed in accordance with the 13A guide and ANSI/EAI/TIA-569-B. Approximate allocation (total of all rooms) shall be 2 percent of the net building area.	
Room	Location	Locate in a lower level.	
Room	Construction	Plywood backboard (3/4 inch thick) around interior perimeter.	
Room	Configuration	Three foot wide door opening out of the room.	
		[(Brigade Headquarters Only) Dedicated emergency power panel for all active equipment.]	
Lighting	Brightness	50 foot-candle	
		Accessed from within the building. No exterior access shall be provided.	
Cabinets	Security	Lockable cabinets shall be provided for security classification segregation.	
Brigade Headquarters - Secure Communications Rooms			
<i>Components Affected</i>	<i>Issue</i>	<i>Requirement</i>	<i>Reference Code</i>
HVAC	Provided	Served by an independent and dedicated air-handling system. Air handling system(s) shall not be floor-space mounted within the actual space served.	
Room	Configuration	Designed and Constructed in accordance with the Technical Guide for the Integration of Secret Internet Protocol Router Network. Minimum size shall be 6'x6'	

Signal Ground Busbar		Each room shall include a communication signal ground busbar, connected to the main telecom room signal busbar via properly sized ground wire (see MIL-HDBK-419-A) and one dedicated 20-amp circuit for the SIPRNet rack/safe.
SIPRNet		Twenty-five percent of all staff in each headquarters shall require Secure Internet Protocol Routing Network (SIPRNet) access, installed in accordance with provisions of Technical Guide for the Integration of SIPRNet.
Secure Video Teleconferencing		Secure VTC shall be provided in each Battalion Headquarters Command Conference Room and each Brigade Headquarters Command Conference Room, BOC and SCIF.
JWICS	Present	Joint Worldwide Intelligence Communications System (JWICS)
SIPRNet	Present	Secret Internet Protocol Router Network (SIPRNet)

Brigade Headquarters - Other Site Features

<i>Components Affected</i>	<i>Issue</i>	<i>Requirement</i>	<i>Reference Code</i>
Fire Protection	Meets Code	All fire protection and life safety features shall be in accordance with UFC 3-600-01 and the criteria referenced therein.	UFC 3-600-01
Sprinkler System	Provided	The facility shall be fully protected with automatic sprinkler systems. All floors and all areas of the facilities shall be protected. The sprinkler design shall be in accordance with UFC 3-600-01 and NFPA 13	UFC 3-600-01, NFPA 13
Sprinkler System	Drainage	All sprinkler system drains, including main drains, test drains, and auxiliary drains, shall be routed to a 2-foot by 2-foot splash block at exterior grade.	
Sprinkler Service Main and Riser	Water Supply	The sprinkler service main shall be a dedicated line from the distribution main. Sprinkler service and domestic service shall not be combined.	

Sprinkler Service Main and Riser	Signage	The sprinkler service main shall be provided with an exterior post indicator valve with tamper switch reporting to the fire alarm control panel (FACP)	
Sprinkler Service Main and Riser	Components	Ground floor entry penetration shall be sleeved per NFPA 13 requirements for seismic protection.	NFPA 13
Sprinkler Service Main and Riser	Components	All control valves shall be OS&Y gate type and shall be provided with tamper switches connected to the FACP.	
Sprinkler Service Main and Riser	Components	The floor control valve assembly shall be in accordance with UFC 3-600-01	
Exterior Hose Stream	Capacity	Exterior hose stream demand shall be in accordance with UFC 3-600-01. This shall be 250 GPM for light hazard and 500 GPM for ordinary hazard.	UFC 3-600-01
Backflow Preventer	Components	Double check valve backflow preventer shall be provided on the fire water main serving each building.	
Backflow Preventer	Location	Located within the building.	
Backflow Preventer	Components	OS&Y valves and meets NFPA 13 requirements	NFPA 13
Fire Department Connection	Provided	A fire department connection shall be provided for each building with sprinkler protection. These shall be located to be directly accessible to the fire department.	
Elevators	Provided	The fire protection features of elevators, hoist ways, machine rooms and lobbies shall be in accordance with UFC 3-600-01, ASME A17.1, NFPA 13, NFPA 72	UFC 3-600-01, ASME A17.1, NFPA 13, NFPA 72
Sprinkler System Hardware	Components	Materials for the sprinkler system, fire pump system, and hose standpipe system shall be in accordance with NFPA 13, NFPA 20	NFPA 13, NFPA 20
Earthquake Piping Protection	Components	Sprinkler and fire pump piping systems shall be protected against damage from earthquakes. Flexible and rigid couplings, sway bracing, seismic separation assemblies at seismic separation joints as required by NFPA 13	NFPA 13
Fire Water Supply	Capacity	Fire test flow data provided in Appendix D	Appendix D

Fire Pump	Meets Code	Comply with requirements of UFC 3-600-01, NFPA 13, NFPA 20	UFC 3-600-01, NFPA 13, NFPA 20
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Appendix E: Army Standard Design Criteria for Battalion Headquarters Facility

General Building			
<i>Components Affected</i>	<i>Issue</i>	<i>Requirement</i>	<i>Reference Code</i>
Physical Security	Security	Zone 1 - limited access for physical and personnel security for:	
Physical Security	Security	Zone 2 - Controlled access for operational and information security for:	
Video Teleconferencing	Components	VTC provide in command conference room	
Private offices	Size	13 total	
Building Construction	Meets Code	Building shall be constructed to meet UFC 3-600-01, the international Building Code and NFPA 101	
Fire Extinguishers	Provided	Should be provided when required by UFC 3-600-01	
Buildings	Location	Should be located within an operations complex along with Company Operations Facilities (COF) and Tactical Equipment Maintenance Facilities (motor pools, TEMF)	
Buildings	Location	Within walking distance of community facilities such as barracks and dining facilities.	
Buildings	Size	Maximum gross area limits indicated in Paragraph 2.0, SCOPE, may not be exceeded. A smaller gross area is permissible given all net area program requirements are met.	
Workstations	Network Access	All workstations shall have data and voice connectivity capability.	
Building	Access	Is building ABA compliant?	
Telecommunications Outlets	Configuration	One outlet per person assuming 36 square feet/person	
Telecommunications Outlets		13A Guidelines	
Telecommunications Outlets	Underground	Underground to Main installation equipment room.	
Telecommunications Outlets	Compliant	Outlets compliance with 13A technical guide	
Telecommunications Outlets	Compliant	SCIF compliant with DCID 6/9, Annex G or Intelligence Community Directive	
Telecommunications Outlets		Data outlets per 13A - user special ops requirements	

Administrative Facilities

<i>Components Affected</i>	<i>Issue</i>	<i>Requirement</i>	<i>Reference Code</i>
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Interior Construction	Configuration	Provide centralized areas for photocopier, laser printer and fax machine with waste and paper recycling receptacles and supply cabinet for paper storage in each office area.	
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Showers

<i>Components Affected</i>	<i>Issue</i>	<i>Requirement</i>	<i>Reference Code</i>
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Showers	Provided	Provide 1 female shower and 2 male shower	
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Staff Duty Station

<i>Components Affected</i>	<i>Issue</i>	<i>Requirement</i>	<i>Reference Code</i>
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Staff Duty Station	Location	Located at each entrance/reception area	
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Tactical SCIF Operation Areas

<i>Components Affected</i>	<i>Issue</i>	<i>Requirement</i>	<i>Reference Code</i>
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Parking	Availability	Parking area for tow HMMWV vehicles with trailer provided adjacent to SCIF.	
Fencing	Security	A perimeter fence consisting of a 6-foot high chain link fabric topped by a single outrigger with three-strand barbed wire designed in accordance with STD 872-90-03, FE-6.	STD 872-90-03, FE-6
Pavement	Size	Provide 30-foot wide by 40 foot long rigid concrete pavement designed to support HMMWV vehicles with trailers	
Landscape	Spacing	A 10-foot wide zone clear of trees and shrubs is required on each side of the fence. Should require minimal maintenance, and the area 5 feet each side of the fence should have gravel.	
Transformers	Location	Not above ground in this area	
Generators	Location	Not above ground in this area	
Mechanical Equipment	Location	Not above ground in this area	

Exterior Lighting

<i>Components Affected</i>	<i>Issue</i>	<i>Requirement</i>	<i>Reference Code</i>
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Exterior Lighting	Access	Sidewalks, service yards and parking areas shall have exterior lighting.	
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Privately Owned Vehicles (POV) Parking

<i>Components Affected</i>	<i>Issue</i>	<i>Requirement</i>	<i>Reference Code</i>
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Parking	Availability	POV parking to be provided at the ratio of one space for 90% of the intended HQ staff capacity	
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Building Entrance

<i>Components Affected</i>	<i>Issue</i>	<i>Requirement</i>	<i>Reference Code</i>
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Building Entrance	Aesthetics	Provide attractive entry features such as canopies and large glass wall surfaces, ensuring compliance with Anti-Terrorism/Force Protection requirements.	
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Office and Admin Areas			
<i>Components Affected</i>	<i>Issue</i>	<i>Requirement</i>	<i>Reference Code</i>
Staff Sections	Configuration	Office sections should be separated by walls or floors.	
Private Offices	Configuration	Private offices should be separated by walls or floors and should have doors for privacy.	
Command Offices	Configuration	Should be built as a more permanent construction with sound insulation, but still with minimal load bearing walls so as to accommodate future reconfiguration.	
Headquarters	Configuration	Should be built as a more permanent construction with sound insulation, but still with minimal load bearing walls so as to accommodate future reconfiguration.	

Message Center			
<i>Components Affected</i>	<i>Issue</i>	<i>Requirement</i>	<i>Reference Code</i>
Mail Room	Security	Provide adequate security for mail storage and distribution.	
Doors	Components	Structural requirements are as follows: Provide doors with suitable locks and door hinges.	
Lock		Shall be key-operated, mortised, or rim-mounted lock; have a dead bolt throw one inch; be a double cylinder design; have five pin tumbler cylinders; with two of mushroom or spool-type drive pin design.	
Windows	Security	Ground-level windows shall have bars.	
Windows	Security	Cover above ground level windows with wire mesh security screen.	
Walls	Material	Shall be made of material to prevent forcible entry.	
Ceilings	Material	Shall be made of material to prevent forcible entry.	
Security System	Provided	Provide provisions for ICIDS (Internal Commercial Intrusion Detection System) in facilities that are not operational on a 24-hour basis.	

Secure Documents Room			
<i>Components Affected</i>	<i>Issue</i>	<i>Requirement</i>	<i>Reference Code</i>
Secure Documents Room	Configuration	Located in the S-2 area of building and constructed in accordance with AR 380-5 and classified for Open Storage.	AR 380-5

Network Operations Center			
<i>Components Affected</i>	<i>Issue</i>	<i>Requirement</i>	<i>Reference Code</i>
Network Operations Center	Configuration	The NOC shall be designed and constructed as a secure room in accordance with AR 380-5 and classified for Open Storage	AR 380-5

Brigade Operations Center			
<i>Components Affected</i>	<i>Issue</i>	<i>Requirement</i>	<i>Reference Code</i>
Brigade Operations Center	Configuration	The BOC will accommodate Gov-Furnished television screens and monitors. Designed and constructed as a secure room in accordance with AR 380-5 and classified for Open Storage.	
Sensitive Compartmented Information Facility			
<i>Components Affected</i>	<i>Issue</i>	<i>Requirement</i>	<i>Reference Code</i>
Sensitive Compartmented Information Facility	Configuration	The SCIF shall be designed and constructed for accreditation in accordance with DCI Directive 6-9 and classified for open storage.	
Telecommunications Rooms			
<i>Components Affected</i>	<i>Issue</i>	<i>Requirement</i>	<i>Reference Code</i>
HVAC	Provided	Served by an independent and dedicated air-handling system. Air handling system(s) shall not be floor-space mounted within the actual space served.	
Network	Provided	Space for classified network, unclassified network, and voice. Space shall be added for users secure and non-secure telecommunications equipment such as Private Branch Exchange (PBX), network switches, routers, servers, and storage.	
Room	Size	Sized and designed in accordance with the 13A guide and ANSI/EAL/TIA-569-B. Approximate allocation (total of all rooms) shall be 2 percent of the net building area.	
Room	Location	Locate in a lower level.	
Room	Construction	Plywood backboard (3/4 inch thick) around interior perimeter.	
Room	Configuration	Three foot wide door opening out of the room. [(Brigade Headquarters Only) Dedicated emergency power panel for all active equipment.]	
Lighting	Brightness	50 foot-candle Accessed from within the building. No exterior access shall be provided.	
Cabinets	Security	Lockable cabinets shall be provided for security classification segregation.	
Secure Communications Rooms			
<i>Components Affected</i>	<i>Issue</i>	<i>Requirement</i>	<i>Reference Code</i>
HVAC	Provided	Served by an independent and dedicated air-handling system. Air handling system(s) shall not be floor-space mounted within the actual space served.	
Room	Configuration	Designed and Constructed in accordance with the Technical Guide for the Integration of Secret Internet Protocol Router Network. Minimum size shall be 6'x6'	

Signal Ground Busbar		Each room shall include a communication signal ground busbar, connected to the main telecom room signal busbar via properly sized ground wire (see MIL-HDBK-419-A) and one dedicated 20-amp circuit for the SIPRNet rack/safe.
SIPRNet		Twenty-five percent of all staff in each headquarters shall require Secure Internet Protocol Routing Network (SIPRNet) access, installed in accordance with provisions of Technical Guide for the Integration of SIPRNet.
Secure Video Teleconferencing		Secure VTC shall be provided in each Battalion Headquarters Command Conference Room and each Brigade Headquarters Command Conference Room, BOC and SCIF.
JWICS	Present	Joint Worldwide Intelligence Communications System (JWICS)
SIPRNet	Present	Secret Internet Protocol Router Network (SIPRNet)

Other Site Features

<i>Components Affected</i>	<i>Issue</i>	<i>Requirement</i>	<i>Reference Code</i>
Fire Protection	Meets Code	All fire protection and life safety features shall be in accordance with UFC 3-600-01 and the criteria referenced therein.	UFC 3-600-01
Sprinkler System	Provided	The facility shall be fully protected with automatic sprinkler systems. All floors and all areas of the facilities shall be protected. The sprinkler design shall be in accordance with UFC 3-600-01 and NFPA 13	UFC 3-600-01, NFPA 13
Sprinkler System	Drainage	All sprinkler system drains, including main drains, test drains, and auxiliary drains, shall be routed to a 2-foot by 2-foot splash block at exterior grade.	
Sprinkler Service Main and Riser	Water Supply	The sprinkler service main shall be a dedicated line from the distribution main. Sprinkler service and domestic service shall not be combined.	
Sprinkler Service Main and Riser	Signage	The sprinkler service main shall be provided with an exterior post indicator valve with tamper switch reporting to the fire alarm control panel (FACP)	
Sprinkler Service Main and Riser	Components	Ground floor entry penetration shall be sleeved per NFPA 13 requirements for seismic protection.	NFPA 13
Sprinkler Service Main and Riser	Components	All control valves shall be OS&Y gate type and shall be provided with tamper switches connected to the FACP.	
Sprinkler Service Main and Riser	Components	The floor control valve assembly shall be in accordance with UFC 3-600-01	
Exterior Hose Stream	Capacity	Exterior hose stream demand shall be in accordance with UFC 3-600-01. This shall be 250 GPM for light hazard and 500 GPM for ordinary hazard.	UFC 3-600-01
Backflow Preventer	Components	Double check valve backflow preventer shall be provided on the fire water main serving each building.	
Backflow Preventer	Location	Located within the building.	
Backflow Preventer	Components	OS&Y valves and meets NFPA 13 requirements	NFPA 13

Fire Department Connection	Provided	A fire department connection shall be provided for each building with sprinkler protection. These shall be located to be directly accessible to the fire department.	
Elevators	Provided	The fire protection features of elevators, hoist ways, machine rooms and lobbies shall be in accordance with UFC 3-600-01, ASME A17.1, NFPA 13, NFPA 72	UFC 3-600-01, ASME A17.1, NFPA 13, NFPA 72
Sprinkler System Hardware	Components	Materials for the sprinkler system, fire pump system, and hose standpipe system shall be in accordance with NFPA 13, NFPA 20	NFPA 13, NFPA 20
Earthquake Piping Protection	Components	Sprinkler and fire pump piping systems shall be protected against damage from earthquakes. Flexible and rigid couplings, sway bracing, seismic separation assemblies at seismic separation joints as required by NFPA 13	NFPA 13
Fire Water Supply	Capacity	Fire test flow data provided in Appendix D	Appendix D
Fire Pump	Meets Code	Comply with requirements of UFC 3-600-01, NFPA 13, NFPA 20	UFC 3-600-01, NFPA 13, NFPA 20

Appendix F: Army Standard Design Criteria for Company Operations Facilities (COF)

COF - General			
<i>Components Affected</i>	<i>Issue</i>	<i>Requirement</i>	<i>Reference Code</i>
Site		Battalion centric design that consolidates COFs for an entire battalion in a single building	
		Open, flexible design for both admin and readiness modules, easy to reconfigure in response to changes in force structure, equipment and doctrine	
	Cost Efficient	Economy of construction	
	Location	Located near the unit motor pool. Should be located within walking distance of unit admin and barracks.	
Fire Protection	Design	Meets Code	
Audio/Visual	Provided	Provisions for a Government-furnished Government-installed projector shall be provided in each conference room.	
Backflow Preventer	Availability	A double check backflow preventer shall be provided on the fire water main serving each building. This shall be located within the building. An exterior wall hydrant with dual hose connections with OS&Y valve shall be provided to allow testing of backflow preventer at design at design flow as required by NFPA 13.	NFPA 13
Design	Security Threat	Constructed to meet requirements of a Risk Level II analysis in accordance with AR 190-51 and AR 190-13	AR 190-51 and AR 190-13
Domestic Hot Water Supply		The main water heating equipment shall be located within a mechanical room, and also located on the ground floor level only. No Instantaneous water heaters except for Readiness Area.	
Electrical System	Adequate	Power system provides a safe, efficient, and economical distribution of power, based upon the size and types of loads to be served.	

Electrical System	Grounded Properly	The ground counterpoise shall be provided around the building perimeter and shall be utilized for grounding incoming service, building steel, telephone service, piping, lightning protection, and internal grounding requirements.	NFPA 70 National Electrical Code, NFPA 780 Lightning Protection Code, local codes, US Army 13A Guide
Exterior Hose Stream	Capacity	250 gpm for light hazard and 500 gpm for ordinary hazard	
Exterior Wall	Material	Consisting of 26 gauge metal wall panels with insulation and interior metal liner panel extended to a height of 8' above the finished floor.	AR 190-51, Appendix B
Exterior Wall Hydrants	Availability	One additional freeze-proof exterior wall hydrant of wall faucet per company shall be provided at the hardstand	
Floor Plan	Size	Increased interior space - 40SF layout areas for 50% of intended personnel	
Fire Alarm	Provided	Complies with UFC 3-600-01 and NFPA 72. Integrated with local Installation wide Fire Alarm System	UFC 3-600-01 and NFPA 72
Fire Alarm	Connected	All initiating devices shall be connected, Class A, Style 6, to signal line circuits (SLC). Alarm appliances shall be connected to notification appliance circuits (NAC), Class A. A looped conduit system shall be provided so that if the conduit and all conductors within are severed at any point, all NAC and SLC shall remain functional.	
Fire Alarm		Break glass manual fire alarm stations shall not be used.	
Fire Alarm	Electric Power	Over-voltage and surge protection shall be provided at the input power of all panels.	
Fire Protection	Design	Meets specified code	UFC 3-600-01 and NFPA 13
Fire Protection	Drainage	All drains lead to a 2' x 2' splash block	
Fire Protection	Components	Main and Riser are separate from domestic water lines	
Fire Protection	Components	Ground floor entry penetration shall be sleeved per NFPA 13 requirements for seismic protection.	
Fire Protection	Connectivity	A fire department connection shall be provided for each building with sprinkler protection. These shall be located to be directly accessible to the fire department.	

Fire Protection		Materials for the sprinkler system, fire pump system, and hose standpipe system shall be in accordance with NFPA 13 and NFPA 20	NFPA 13 and NFPA 20
Fire Pump		Dependent on the flow test data from the project site and fire protection system design requirements for the project.	UFC 3-600-01, NFPA 13, and NFPA 20
Fire Water Supply	Flow	Fire flow test is provided in Appendix D	Appendix D
Interior Lighting	Meets Code	Interior Lighting. Interior ambient illumination shall provide a generally glare free, high quality lighting environment and conform to IESNA RP-1-04	
Interior Wall	Material	Contracted for devising walls between company readiness areas shall consist of a stud wall with impact resistant gypsum wall board each side	
Lighting	Adequately lit	Lighting and lighting controls shall comply with the recommendations of the Illumination Engineering Society of North America (IESNA) and the requirements of ASHRAE 90.1	ASHRAE 90.1
Lighting Controls	Light Quality	Local manual controls supplement automatic controls in offices and specialized such as conference rooms. Occupancy sensor controls shall be provided in restrooms, electrical rooms, telecommunications rooms and similar spaces. Interior ambient light provides a glare free, high quality lighting environment and conform to IESNA RP-1-04	IESNA RP-1-04
Lightning Protection	Safe	Lightning protection system is in accordance with NFPA 780 and other referenced criteria.	NFPA 780
Lockers	Material	16 gauge thick cold sheet steel; 1" x 1" x 1/8" angle iron frames	
Lockers	Signage	Aluminum number plate (numbered in sequential order)	
Lockers	Components	Full width shelf located 12" from the top with clothes hangar rod and three locker hooks mounted below	
Lockers	Mounting	Mounted to concrete floor per manufacturer's guidelines	
Lockers	Paint	Covered with high quality durable finish with color to be manufacturer's standard tan or grey	

Lockers	Size	Enlarged TA-50 lockers 42"(w) x 24"(d) x 78"(h) for 100% of intended personnel in each company	
Network Connection	Provided	All COF workstations have voice and data connection capability. All conference rooms have voice and data connection capability.	
Receptacles	Adequate	Receptacles provided per NFPA 70 and in conjunction with the proposed equipment and furniture layouts. Power connectivity to each workstation. Power poles shall not be used. Provide duplex receptacles adjacent to each duplex (voice/data) outlet and CATV outlet.	NFPA 70
Riser	Components	Equipped with a double backflow preventer and control valve. Facilities with multiple floors should have control valve at each floor.	UFC 3-600-01, Figure 4-1
Showers		Consolidated showers for combined building occupancy	
Sprinklers/Fire Pump	Earth quake resilient	Mounted with flexible and rigid couplings, sway bracing, seismic separation assemblies where piping crosses building seismic separation joints, and other features as required by NFPA 13.	NFPA 13
Telecommunications Rooms	Provided	Minimum of one room per floor, located as near the center of the building as practicable, and stacked between floors. The telecommunications rooms shall be designed in accordance with the 13A Guide and ANSI/EIA/TIA-569-B	13A Guide and ANSI/EIA/TIA-569-B
Water Heater Storage Tank	Size	Minimum of 600 GAL	
COF - Fire Extinguisher Cabinets and Brackets			
<i>Components Affected</i>	<i>Issue</i>	<i>Requirement</i>	<i>Reference Code</i>
Fire Extinguisher Cabinets and Brackets	Mounting	Semi-recessed cabinets shall be provided in finished areas and brackets shall be provided in non-finished areas.	UFC 3-600-01 and NFPA 10 and NFPA 101
COF - Interior Wall and Ceiling Finishes			
<i>Components Affected</i>	<i>Issue</i>	<i>Requirement</i>	<i>Reference Code</i>
Interior Wall and Ceiling Finishes		Interior wall and ceiling finishes and movable partitions shall conform to the requirements of UFC 3-600-01 and NFPA 101	UFC 3-600-01 and NFPA 101
COF - Administrative			
<i>Components Affected</i>	<i>Issue</i>	<i>Requirement</i>	<i>Reference Code</i>
Window	Lighting	Natural Lighting provided	
Window	Ventilation	Natural ventilation is available	

Insulation	Sound	STC 42 at walls and floor/ceiling assemblies, and STC 33 rating for doors	
Conference Area	Sound	Noise Criteria (NC) 30 rating	ASHRAE
Doors	Material	Solid core wood in a metal frame.	
Floor Plan	Configuration	Flexibility for future rearrangement within office and admin areas	
Command Offices	Sound	STC 42 at walls and floor/ceiling assemblies, and STC 33 rating for doors	
Walls	Structure	Non-load bearing walls for reconfiguration in future	
HVAC		Shall be temperature-controlled by the DDC system. Temperature set point adjustment shall be accomplished via DDC System by authorized personnel	
	Construction	Constructed in accordance with Technical Guide for the Integration of Secret Internet Protocol Router Network (SIPRNet)	
Electrical		Provide one dedicated 20-amp breaker for the SIPRNet rack/safe, in addition to convenience outlets in the SIPRNet room.	
Intrusion Detection	Security		
COF - Administrative - Private Offices for the Commander, First Sergeant, Exec			
<i>Components Affected</i>	<i>Issue</i>	<i>Requirement</i>	<i>Reference Code</i>
	Configuration	Private offices for the Commander, First Sergeant, Executive Officer and Training Room	
COF - Administrative - Printer Area			
<i>Components Affected</i>	<i>Issue</i>	<i>Requirement</i>	<i>Reference Code</i>
	Configuration	Space for printer and fax machines, waste and paper recycling receptacles, and supply closet for storage	
COF - Administrative - Shared Office Space			
<i>Components Affected</i>	<i>Issue</i>	<i>Requirement</i>	<i>Reference Code</i>
	Configuration	Shared Office space for platoon leaders and platoon sergeants	
COF - Administrative - Conference			
<i>Components Affected</i>	<i>Issue</i>	<i>Requirement</i>	<i>Reference Code</i>
	Configuration	Conference space for meetings and/or training	
COF - Administrative - Shower Area			
<i>Components Affected</i>	<i>Issue</i>	<i>Requirement</i>	<i>Reference Code</i>
Plumbing	Plumbing Service	A place for commuters to shower and change after PT	

COF - Administrative - Consolidate Utility Areas

<i>Components Affected</i>	<i>Issue</i>	<i>Requirement</i>	<i>Reference Code</i>
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Utility Areas

COF - Administrative - Communications SIPRNet Rooms

<i>Components Affected</i>	<i>Issue</i>	<i>Requirement</i>	<i>Reference Code</i>
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HVAC	Air handling unit	Served by an independent and dedicated air-handling system. Shall not be floor space mounted within the actual space reserved. Rooms shall maintain 72 degrees F and 50 relative humidity year-round. Assume 1775 BTU per hour for equipment heat dissipation.	
Cable Television	Adequate	Cable system consists of cabling, pathways, and outlets. Meets applicable criteria.	UFC 3-580-01
Intrusion Detection	Components	Contractor shall install the necessary conduit, electrical power, and wiring, to support installation of an ICIDS system in each of the Arms Room and SIPRNet Room. The Government shall install the signal devices and equipment necessary to activate the system	
Audio/Visual System	Components	Provisions (consisting of a power receptacle and conduit for signal wiring) for a Government-furnished Government-installed projector shall be provided in each conference room.	
Intercom	Provided	Mass notification system provided. Including; speakers, strobes, cabling, pathways, activator stations, and a main console/amplifier utilizing a telephone and wireless input for local facility wide instruction shall be provided to provide coverage throughout facility.	UFC 4-010-01

COF - Readiness Module

<i>Components Affected</i>	<i>Issue</i>	<i>Requirement</i>	<i>Reference Code</i>
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Structure	Code	Built to code specs.	AR 190-51 & AR 190-13
Exterior Wall	Material	Consists of 26 gauge metal wall panels with insulation and an interior metal liner panel extended to a height of 8' above the finished floor will satisfy the minimum Risk Level II requirements	AR 190-51, Appendix B-2, paragraph c
Interior Wall	Material	Consist of a stud wall with impact resistant gypsum wall board each side	
Windows	Secure	Locks	
Walls	Structure	Non-load bearing walls for reconfiguration in future	

HVAC	Ventilated adequately	Should be heated and air conditioned. Indoor design temperature for heating shall be 55 degrees F, and cooling shall be 80 degrees F with maximum 60 percent humidity.	
Future Soldier LAN Warrior System		Provide an empty 3-inch conduit (with pull wire and capped) from the main distribution panel to a location in this room for a future power panel and an empty 2-inch conduit (with pull wire and capped) from the main telephone backboard to a location in this room for the future data connection system.	
Arms Vault	Availability	Enlarged arms vaults - option of prefabricated/modular vaults	
Security Storage		Provision for non-sensitive items secure storage	
COF - Readiness Module - Readiness Bays			
<i>Components Affected</i>	<i>Issue</i>	<i>Requirement</i>	<i>Reference Code</i>
	Configuration	Provide accommodation for individual combat equipment lockers for all unit personnel, plus co-located area for equipment maintenance, training, and pre-deployment preparations.	
Maintenance Area	Size	Big enough for 50% of unit personnel to have a 5' x 8' space to layout TA-50 gear	
Forklift	Access	Floor should support forklift movement throughout area.	
Sinks	Provided	Interior mud wash utility sink shall be provided in Readiness areas.	
Sinks	Occurrence	1 sink for every 50 soldiers	
COF - Readiness Module - Supply Bays			
<i>Components Affected</i>	<i>Issue</i>	<i>Requirement</i>	<i>Reference Code</i>
	Configuration	Provide storage space for company supplies and equipment: weapons and consumable supplies	
	Configuration	Provides accommodation for supply sergeant, supply clerks, and the armorer in performing sipping and receiving functions	
COF - Supply Bays - Weapons Vault			
<i>Components Affected</i>	<i>Issue</i>	<i>Requirement</i>	<i>Reference Code</i>
	Security	Secure storage room for non-sensitive items	
	Configuration	Nuclear, biological, and chemical (NBC) equipment storage	
	Configuration	Communications equipment storage	

Intrusion Detection	Configuration	Consumable unit storage	
	Security	Contractor shall install the necessary conduit, electrical power, and wiring, to support installation of an ICIDS system in each of the Arms Rooms.	
COF - Readiness Module - Overflow			
<i>Components Affected</i>	<i>Issue</i>	<i>Requirement</i>	<i>Reference Code</i>
Mezzanine		Utilization of mezzanine for overflow/expansion storage within the area limitations	IBC NFPA 101
COF - Site - Exterior Covered Hardstand			
<i>Components Affected</i>	<i>Issue</i>	<i>Requirement</i>	<i>Reference Code</i>
	Size	Varying	Paragraph 2.0 SCOPE
Canopy	Size	Minimum height of 14' or such height as required to allow for operational truck access. Minimum clear depth is 30'	
	Location	Adjacent to the readiness module.	
Electrical	Outlets	Provide weatherproof lighting and weatherproof general purposes receptacles with GFCI. One duplex receptacle for every two columns	
Ext Maintenance Areas	Size	Covered exterior maintenance areas - 40SF for 25% of intended personnel	
COF - Site - Service Yard			
<i>Components Affected</i>	<i>Issue</i>	<i>Requirement</i>	<i>Reference Code</i>
Pavement		Rigid Concrete	
	Size	Deep enough for a 35-foot long vehicle with 45-foot turning radius along entire Readiness Module.	
Drainage	Slope	Sloped to drain away from Readiness Facility	
	Components	Provide one boot/TA-50 gear washing station per company.	
	Components	Each station shall include four freeze proof hose bibb and drying rack (handrail)	
COF - Site - Entrance			
<i>Components Affected</i>	<i>Issue</i>	<i>Requirement</i>	<i>Reference Code</i>
Entrance Pavement	Size	Entrance is 28-foot wide	
Entrance Pavement	Location	Entrances are on opposite sides of the service yard	
COF - Site - Bollards			
<i>Components Affected</i>	<i>Issue</i>	<i>Requirement</i>	<i>Reference Code</i>
Bollards	Size	6-inch diameter by 5-foot high	
Bollards		schedule 80 galvanized steel pipe	

Bollards	Configuration	5-foot O.C. spacing, 5-feet from edge of electrical and mechanical equipment
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Bollards	Paint	Painted safety yellow
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COF - Site - Privately Owned Parking

<i>Components Affected</i>	<i>Issue</i>	<i>Requirement</i>	<i>Reference Code</i>
POV Parking	Size	One space for every two people for the maximum design capacity of all COF	

Appendix G: Army Standard Design Criteria for Tactical Equipment Maintenance Facilities (TEMF)

Repair and Maintenance Areas - General			
<i>Components Affected</i>	<i>Issue</i>	<i>Requirement</i>	<i>Reference Code</i>
N/A	Size	32'x96'	
Structure	Interior Columns	None in Structural Bays	
Structure	Ceiling Height	Min 20' to crane hook cradle	
Concrete Floor	Slope		NFPA 30A, IBC/IPC
Internal Partition Walls	Type	Fixed walls adjacent to core areas	
Trench Drains	Location	Outside wall near doors, centerline of central corridor	
Trench Drains	Size	6"	
Overhead doors	Size	24' wide x 14' 8" wide	
Overhead doors	Type	Coiling, (or sectional, telescopic), heavy duty	
Overhead doors	Location	Each end of structural bay	
Overhead doors	Operation	Electric w/Manual chain, interior operation only, intermediate stop, locking	
Overhead doors	Optional	Insulated and vision panel	
Bollards	Size	12" dia, 5' height	
Bollards	Type	Concrete filled steel	
Bollards	Location	Each side of all OH Door Openings	
Personnel Doors	Size	3'x7'	
Personnel Doors	Type	Steel, vision panel	
Personnel Doors	Location	each end maintenance area	
Windows/Skylights	Day lighting	Skylights, clerestory windows, translucent panel preferred	
Heat Plant	Temperature	55 deg F	
Supply Fan	IAQ	100% out door air (no re-circ, no return air plenum)	
Supply Fan	Operation	VFD, CO and NOX sensor	
Supply Fan	Capacity	1.5 SFM per SF	
Exhaust	Operation	Continuous	
Exhaust	Optional	ERV	
Lighting	illumination level	50 FC	

Lighting	Type	T5, T5H0, or T8 Fluorescent
Lighting	Type	Optional use of hybrid lighting and light tubes (3M light pipe)
Paging System	Location	All structural repair bays

Repair and Maintenance Areas - Repair

<i>Components Affected</i>	<i>Issue</i>	<i>Requirement</i>	<i>Reference Code</i>
N/A	Size	Structural height shall be as required to allow minimum bridge crane hook cradle height of 20 feet	CMMA 70 or CMAA 74
Crane	Location	Coverage for all structural bays	ASME HST-1 or HST-4
Crane	Capacity	10 TN, 35 TN	
Crane	Operation	10 TN - hoist 20 fpm, trolley 65 fpm, bridge 125 fpm (each direction)	
Crane	Operation	35 TN - hoist 10 fpm, trolley 60 fpm, bridge 85 fpm (each direction)	
Compressed Air	Location	2 outlets, each pr of repair areas, 3' above floor	
Compressed Air	Type	quick disconnect couplings, 120 psi	
Electric Power	Location	each pair of repair areas, for hydraulic lifts	
Data connection	Location	NIPR/SIPRNet connection in each repair area	
Vehicle Exhaust	Type	1400 cfm, 700 Deg F, or 1200 F for tracked vehicles	

Repair and Maintenance Areas - Repair - Tire Changing

<i>Components Affected</i>	<i>Issue</i>	<i>Requirement</i>	<i>Reference Code</i>
N/A	Location	Provide capability for tire changing function within one pair of repair areas	

Repair and Maintenance Areas - Repair - Wash Bay

<i>Components Affected</i>	<i>Issue</i>	<i>Requirement</i>	<i>Reference Code</i>
N/A	Location	one in repair area of each wing	
Wall	Type	5'4" high CMU separation wall	

Repair and Maintenance Areas - Repair - Welding Area

<i>Components Affected</i>	<i>Issue</i>	<i>Requirement</i>	<i>Reference Code</i>
Exhaust	Type	Non-sparking, manual engagement	
N/A	Location	One per pair of repair areas	
Trench Drain	Cover	Solid Cover	

Repair and Maintenance Areas - Maintenance Area

<i>Components Affected</i>	<i>Issue</i>	<i>Requirement</i>	<i>Reference Code</i>
POL Hose Reels		2x, wall mounted	
POL Hose Reels	Component s	Provides shut off valve, distribution for grease/engine oil/gear oil/transmission fluid/antifreeze	
POL Hose Reels	Structure	Heavy duty construction	

Repair and Maintenance Areas - Maintenance Area - Maintenance Pit			
<i>Components Affected</i>	<i>Issue</i>	<i>Requirement</i>	<i>Reference Code</i>
N/A	Size	40'x3'6"x4'4" deep	
Lighting	illumination level	15 FC	
Lighting	Type	T5, T5H0, or T8 Fluorescent	
Sump	Present	Yes	
Compressed Air	Location	2x outlets	
Floor	Type	Non-slip floor grating	
Exhaust	Type	Ducted, with explosion proof fan	
Pit Cover	Size	Manageable by maximum of two people, and support pedestrian traffic	
Repair and Maintenance Areas - Circulation Bays			
<i>Components Affected</i>	<i>Issue</i>	<i>Requirement</i>	<i>Reference Code</i>
N/A	Size	8'x96'	
N/A	Location	between each wing and core areas	
N/A	Egress		OSHA
Emergency eyewash	Location	One per bay	OSHA 1910.151(c), ANSI Z358
Emergency shower	Location	One per bay	OSHA 1910.151(c), ANSI Z358
Emergency hand held drench hose	Location	One per bay	OSHA 1910.151(c), ANSI Z358
Personnel Doors	Size	3'x7'	
Personnel Doors	Type	Steel, vision panel	
Core Areas			
<i>Components Affected</i>	<i>Issue</i>	<i>Requirement</i>	<i>Reference Code</i>
N/A	Layout	1 or 2 story	
N/A	Accessibility	ABA compliant	ABA
Internal Partition Walls	Type	Non-Load Bearing (reconfigurable)	
Lighting	Controls	Day lighting	
Heat Plant			Para 5, sec 01 11 00
Telecom	Outlets	One per work area/workstation	
Fire Extinguisher Cabinets	Location		

Core Areas - Admin and Shop Control			
<i>Components Affected</i>	<i>Issue</i>	<i>Requirement</i>	<i>Reference Code</i>
Reception window	Location	Counter to Corridor	
Reception window	Type	Lockable, coiling shutter	
Reception window	Size	30"x30"	
Interior Windows	Type	Fixed	
Exterior Windows	Type	Operable	
Lighting	illumination level	50 FC	
Data	Outlets	Voice/Data at each workstation	
CATV	Outlets	2x	
Paging System	Location	Microphone	
Core Areas - Training Room			
<i>Components Affected</i>	<i>Issue</i>	<i>Requirement</i>	<i>Reference Code</i>
N/A	Size	accommodate 30 students	
Walls	Sound	STC>45	
Electric Power	Location	Each student	
Data connection	Location	Each student	
Exterior Windows	Type	Operable	
Lighting	Type	Glare free, dimmable ballast	
Core Areas - Consolidated Bench			
<i>Components Affected</i>	<i>Issue</i>	<i>Requirement</i>	<i>Reference Code</i>
N/A	Size	16 SF	
Walls	Sound	STC>45	
Overhead doors	Size	10'x10'	
Overhead doors	Type	Coiling, (or sectional, telescopic), heavy duty	
Overhead doors	Location	One	
Overhead doors	Operation	Electric w/Manual chain, interior operation only, locking	
Overhead doors	Optional	Insulated	
Exterior Windows	Type	Operable	
Personnel Doors	Location	To Circulation Bay	
Personnel Doors	Type	Lockable	
Compressed Air	Location	outlets in room	
Core Areas - Tools Room			
<i>Components Affected</i>	<i>Issue</i>	<i>Requirement</i>	<i>Reference Code</i>
N/A	Configuration	Direct covered access to SATS on Exterior	
SATS	Size	8' x 20' x 8'	
SATS	Location	Adjacent to Tool Room	
Connectivity	Location	Connectivity to building with SATS is required.	

Awning	Size	Minimum 14 foot clear height above hardstand for weather protection of SATS
Reception window	Location	Counter to Corridor
Reception window	Type	Lockable, coiling shutter
Personnel Doors	Location	To Circulation Bay
Personnel Doors	Type	Lockable

Core Areas - Tool Box Storage

<i>Components Affected</i>	<i>Issue</i>	<i>Requirement</i>	<i>Reference Code</i>
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N/A	Location	One per repair wing	
Personnel Doors	Location	To Circulation Bay	
Personnel Doors	Type	Lockable, With closer	

Core Areas - Combat Spares

<i>Components Affected</i>	<i>Issue</i>	<i>Requirement</i>	<i>Reference Code</i>
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N/A	Size	8' x 20' x 8'	
N/A	Configuration	Direct Covered Access to ASL-MS on exterior	
Reception window	Location	Counter to Corridor	
Reception window	Type	Lockable, coiling shutter	
Personnel Doors	Location	To Circulation Bay	
Personnel Doors	Type	Lockable	

Core Areas - Latrines

<i>Components Affected</i>	<i>Issue</i>	<i>Requirement</i>	<i>Reference Code</i>
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N/A	Location	Each Floor	
N/A	Configuration	Separate Men's and Women's	
Lighting	illumination level	20 FC	
N/A	Present	water closets, urinals, lavatories and drinking fountains	

Core Areas - Showers/Lockers

<i>Components Affected</i>	<i>Issue</i>	<i>Requirement</i>	<i>Reference Code</i>
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N/A	Size		
N/A	Location	1st floor, Adjacent to Latrine area	
Lighting	illumination level	20 FC	
Shower Compartment	Size	3'x3'	
Lockers	Type	Steel, 1'x1.5'x6' high	

Core Areas - Showers/Lockers

<i>Components Affected</i>	<i>Issue</i>	<i>Requirement</i>	<i>Reference Code</i>
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N/A	Location	Same Floor as Admin Shop Control	
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Size		
Lighting	illumination level	30 FC
Lighting	Type	Glare free, dimmable ballast
Exterior Windows	Type	Operable
CATV	Outlets	2x
Cabinets/Countertops	Size	30" deep, 10' long, w/sink

Core Areas - Showers/Lockers

<i>Components Affected</i>	<i>Issue</i>	<i>Requirement</i>	<i>Reference Code</i>
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Floors/Wall/Ceiling	Security		
Vault Door	Type	GSA Class 5 Armory w/Day gate	Fed Spec AA-D-600D
Interior Partitions	Type	Wire Mesh	
N/A	Size	300 NSF	
Roof	Security	Concrete Roof Caps	
Exhaust	Operation	Continuous	
Exhaust	Optional	ERV	
Lighting	illumination level	50 FC	
Intrusion Detection	Security	Present	

Core Areas - Showers/Lockers

<i>Components Affected</i>	<i>Issue</i>	<i>Requirement</i>	<i>Reference Code</i>
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N/A	Size	300 NSF, Min 8' dimension	
Roof	Security	Concrete Roof Caps	AR 380-5
AHU System	Type	Independent, not floor mounted	
N/A	Climate	72F, 50% relative humidity	
Lighting	illumination level	50 FC	
Intrusion Detection	Security	Present	

Core Areas - Showers/Lockers

<i>Components Affected</i>	<i>Issue</i>	<i>Requirement</i>	<i>Reference Code</i>
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Intrusion Detection	Security	Present	
N/A	Size	6'x6'	
N/A	Location	Adjacent to Telecom Room	

Core Areas - Showers/Lockers

<i>Components Affected</i>	<i>Issue</i>	<i>Requirement</i>	<i>Reference Code</i>
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Lighting	illumination level	20 FC	
N/A	Size	300 NSF	AR 190-51

Core Areas - Showers/Lockers			
<i>Components Affected</i>	<i>Issue</i>	<i>Requirement</i>	<i>Reference Code</i>
N/A	Location	1 room per floor, center of building, stacked between floors	I3A guide, ANSI/EIA/TI A-569-B
AHU System	Type	Independent, not floor mounted	
N/A	Climate	72F, 50% relative humidity	
Non-Assignable - Stairwells			
<i>Components Affected</i>	<i>Issue</i>	<i>Requirement</i>	<i>Reference Code</i>
N/A	Configuration		IAW Local Codes
Non-Assignable - Elevators			
<i>Components Affected</i>	<i>Issue</i>	<i>Requirement</i>	<i>Reference Code</i>
Elevator	Location	one per two story building	
Non-Assignable - Circulation Corridors			
<i>Components Affected</i>	<i>Issue</i>	<i>Requirement</i>	<i>Reference Code</i>
N/A	Size	Min 6' Wide	
Non-Assignable - Waiting Area			
<i>Components Affected</i>	<i>Issue</i>	<i>Requirement</i>	<i>Reference Code</i>
N/A	Size	Accommodates 4 person seating	
N/A	Location	Adjacent to Admin and shop control pass-through window	
Non-Assignable - Janitorial Spaces			
<i>Components Affected</i>	<i>Issue</i>	<i>Requirement</i>	<i>Reference Code</i>
Service Sink	Present	Yes	
Heavy Duty Sink	Present	Yes	
Recycling	Optional	Recycling function	
Non-Assignable - Mechanical Spaces			
<i>Components Affected</i>	<i>Issue</i>	<i>Requirement</i>	<i>Reference Code</i>
AHU	Location	Utility space provided	
N/A	Location	Adjacent to Exterior Wall, stacked between floors	
Hose Bib	Location	In each Room	
Walls	Sound	STC >45	
Lighting	illumination level	30 FC	
Non-Assignable - Electrical Room			
<i>Components Affected</i>	<i>Issue</i>	<i>Requirement</i>	<i>Reference Code</i>
N/A	Location	Adjacent to Exterior Wall, stacked between floors	

Lighting illumination 30 FC
 level

Non-Assignable - Fluid Distribution Room			
<i>Components Affected</i>	<i>Issue</i>	<i>Requirement</i>	<i>Reference Code</i>
N/A	Location	Near Maintenance Pit	UFC 3-600-01, FFPA 30, and 29 CFR 1910.105
N/A	Size	Accommodate POL storage containers	UFC 3-600-01, FFPA 30, and 29 CFR 1910.106
N/A	Environment	EPA compliant	

Non-Assignable - Fluid Distribution Room			
<i>Components Affected</i>	<i>Issue</i>	<i>Requirement</i>	<i>Reference Code</i>
N/A	Location	Provide one per test site	
Electric Power	Present	Yes	
Grounding Points	Present	Yes	

Organizational Vehicle Hardstand			
<i>Components Affected</i>	<i>Issue</i>	<i>Requirement</i>	<i>Reference Code</i>
Pavement	Type	Rigid	
Pavement	Capacity	Supports heaviest vehicle	
Pavement	Slope	1% min, 2% max	
Electrical Power	Load	200 amp, 208V, 3 ph	
Telecom	Connections	Fiber Optic terminal connections	

Organizational Vehicle Hardstand - Tactical / Military Vehicle			
<i>Components Affected</i>	<i>Issue</i>	<i>Requirement</i>	<i>Reference Code</i>
N/A	Clearance	3' side, 2' end	

Organizational Vehicle Hardstand - POL			
<i>Components Affected</i>	<i>Issue</i>	<i>Requirement</i>	<i>Reference Code</i>
N/A	Location	Physically separate from hardstand	

Organizational Vehicle Hardstand - Dead-Line			
<i>Components Affected</i>	<i>Issue</i>	<i>Requirement</i>	<i>Reference Code</i>
N/A	Location	Adjacent to repair bays	
N/A	Clearance	3' side, 2' end	

Organizational Vehicle Hardstand - Building Aprons			
<i>Components Affected</i>	<i>Issue</i>	<i>Requirement</i>	<i>Reference Code</i>
N/A	Size	45' wide	
N/A	Location	All sides of building	
Site Storage			
<i>Components Affected</i>	<i>Issue</i>	<i>Requirement</i>	<i>Reference Code</i>
Lighting	illumination level	20 FC	
Structure	Type	Solid Walls and Roof	
Bollards	Size	12" dia, 5' height	
Bollards	Type	Concrete filled steel	
Bollards	Location	Each side of all OH Door Openings, 5' spacing around bulk liquid tanks	
Walls	Type	Optional use of Solar walls - acts as insulation based on heating ventilated air. (solarwall.com)	
Site Storage - Hazardous Waste			
<i>Components Affected</i>	<i>Issue</i>	<i>Requirement</i>	<i>Reference Code</i>
N/A	Safety	Secondary containment	UFC 3-600-01, NFPA 30, and 29 CFR 1910.106
N/A	Size	Based on number of vehicles; Minimum of 120 SF	
Skylights	Day lighting	Dome Type	
Heating Plant	Climate	40 F	
N/A	Location	Minimum separation distance from other buildings	IBC
Site Storage - POL Storage			
<i>Components Affected</i>	<i>Issue</i>	<i>Requirement</i>	<i>Reference Code</i>
N/A	Access	Apron Access to Bldg	
N/A	Safety	Secondary containment	UFC 3-600-01, NFPA 30, and 29 CFR 1910.106
N/A	Size	Based on number of vehicles; Minimum of 120 SF	
N/A	Location	Minimum separation distance from other buildings	IBC
Skylights	Day lighting	Dome Type	
Heating Plant	Climate	40 F	
Site Storage - Organizational			
<i>Components Affected</i>	<i>Issue</i>	<i>Requirement</i>	<i>Reference Code</i>
N/A	Size	Based on number of vehicles; 45 FT Deep	

Overhead Doors	Type	Coiling
Overhead Doors	Location	one for each company supply area
N/A	25' deep building	
Floor	Capacity	Fork-Lift Safe
Skylights	Day lighting	Dome Type
Heating Plant	Climate	40 F

Site Storage - Distribution Company Storage

<i>Components Affected</i>	<i>Issue</i>	<i>Requirement</i>	<i>Reference Code</i>
N/A	Size	800 SF	
Skylights	Day lighting	Dome Type	
Heating Plant	Climate	55 F	

Site Storage - Secured Open Storage

<i>Components Affected</i>	<i>Issue</i>	<i>Requirement</i>	<i>Reference Code</i>
N/A	Size	445 SY	
Fence	Location	Fenced Area on Pavement	

Site Storage - UAV Maintenance and Storage

<i>Components Affected</i>	<i>Issue</i>	<i>Requirement</i>	<i>Reference Code</i>
N/A	Size	40'x45' building where required	
Skylights	Day lighting	Dome Type	
Heating Plant	Climate	55 F	
Supply Fan	IAQ	100% out door air (no re-circ, no return air plenum)	

Site Storage - Oil Storage Tanks

<i>Components Affected</i>	<i>Issue</i>	<i>Requirement</i>	<i>Reference Code</i>
N/A	Type	500 Gal, above ground, non corrosive, secondary containment	IBC
N/A	Location	Adjacent to repair area, and used POL storage	IBC

Site Storage - Engine Coolant Storage Tanks

<i>Components Affected</i>	<i>Issue</i>	<i>Requirement</i>	<i>Reference Code</i>
N/A	Type	500 Gal, above ground, non corrosive, secondary containment	IBC
N/A	Location	Adjacent to repair area, and used POL storage	IBC

Site Storage - Out of Sep Waste Fuel Tanks

<i>Components Affected</i>	<i>Issue</i>	<i>Requirement</i>	<i>Reference Code</i>
N/A	Type	500 Gal, above ground, non corrosive, secondary containment	IBC
N/A	Location	Adjacent to repair area, and used POL storage	IBC

Site Storage - Security Fence			
<i>Components Affected</i>	<i>Issue</i>	<i>Requirement</i>	<i>Reference Code</i>
Fence	Type	7' Chain link fabric, 3 strand barbed wire	UFC 4-010-01, and STD 872-90-03, FE-6
Fence	Clearance	Clear zone 20' wide inside fence, 10' wide outside	
Gates	Size	30' vehicle gates	
Other Site Features			
<i>Components Affected</i>	<i>Issue</i>	<i>Requirement</i>	<i>Reference Code</i>
Oil water separator	Present	Yes	UFC 3-600-01, NFPA 13, and IBC
Utility monitoring control system	Present	Yes	
Pole Mounted Exterior Lighting	Type	HID fixtures, photo sensor controlled, <0.5 FCs	
Bldg Mounted Exterior Lighting	Type	Fluorescent or HID	
Exterior Materials	Aesthetics	Attractive	
Exterior Materials	Durability	Low Maintenance	
Fire Protection	Location	All areas covered	
Fire Protection	Type	Wet pipe for heated spaces, dry pipe for non-heated spaces	
Air Compressor	Capacity	Provide 120 psi air	
Lightning protection	Present	Yes	
Transient Voltage Surge Protection	Present	Yes	
Electrical Service	Type	3 ph, 200 amp breaker in main switchboard	
Electrical Service	Distribution	Receptacles to each workstation, duplex receptacle adjacent to each voice/data, and CATV outlet	
Data	Distribution	Cat 6 cabling for all voice and data connections	
Fire detection alarm	Type	Assignable	

Appendix H: User Input Design Issues for Tactical Equipment Maintenance Facilities (TEMF)

Area/Component:	Maint/Repair Bays - Concrete Flooring
Problem:	The concrete floor slab in the maintenance/repair areas is unsealed. This makes it difficult to adequately clean up oil spills that occasionally occur, and it leaves oil stains on the floor.
Proposed Solution:	Seal Concrete Floor
Area/Component:	Maint/Repair Bays - Concrete Flooring
Problem:	Lines Painted on the concrete floor slab in the maint/repair area.
Proposed Solution:	Do not paint lines on floor slab. Each unit will configure space to best conduct operations.
Area/Component:	Welding Area
Problem:	The welding area is in the first bay by the core admin area, so it is an increased hazard for occupants walking out of admin spaces
Proposed Solution:	Move welding area to the bay farthest from core admin area. In addition, install welding curtains area space (but make sure any partition does not affect access to emergency eye wash station.
Area/Component:	Emergency Eye Wash Station
Problem:	Emergency Eye Wash Station drains to central drain in welding bay, causing a potential safety hazard due to exposure to electrical shock.
Proposed Solution:	Relocate eyewash station or re-route drainage to perimeter drainage
Area/Component:	Latrine Capacity
Problem:	There is only one urinal each in upstairs and downstairs latrines. This is not sufficient capacity to support the number of troops occupying facility during peak use times.
Proposed Solution:	Add additional fixtures to account for additional occupants if needed.
Area/Component:	Locker Capacity
Problem:	There are only 42 lockers or cubby stations in the downstairs locker room. However, there can be 80 people or more occupying the facility during training, each requiring locker space.
Proposed Solution:	Add additional lockers if needed.
Area/Component:	Break Room
Problem:	The break room doubles as a conference room. There is not a dedicated break room to use when conference room is being occupied during training or planning exercises.

Proposed Solution:	Add space for separate break room if needed
Area/Component:	2nd Floor Windows
Problem:	Windows are not operable on the second floor. Cannot run wires and cabling from outside equipment (satellites, etc) to training rooms inside.
Proposed Solution:	Run conduit for connection to equipment outside.
Area/Component:	Outside equipment pads and mounting
Problem:	The satellite that feeds information for the SAMS system (maintenance and parts tracking system) is just set on the ground
Proposed Solution:	Need a permanent place mounted off the ground. (Note that they are building a pad and running conduit cabling for this.)
Area/Component:	Hardstand / Exterior Lighting
Problem:	Cannot maneuver vehicles (especially lowboy trailers in excess of 45' in length) around light posts on the outside hardstand.
Proposed Solution:	Provide only perimeter lighting, with limited interior light posts. Exterior lighting is more than adequate, and most vehicles already have own lighting systems.
Area/Component:	2nd Floor Admin Area - Communication to Maint/Repair Bays
Problem:	There is no way to communicate from the upstairs admin spaces to the repair bays below, no phones or operable windows.
Proposed Solution:	Provide occupant training on building intercom system.
Area/Component:	Fluid Distribution Room
Problem:	Door to Fluid Distribution Room is too narrow to get a forklift with a palate of POL drums in.
Proposed Solution:	Provide wider door, or overhead door to Fluid Distribution Room
Area/Component:	Consolidated Bench Room - Partitions
Problem:	There is no partition between classified equipment repair and non-classified equipment repair areas.
Proposed Solution:	Provide lockable cage partition between repair areas in consolidated bench repair room.
Area/Component:	Air Compressor
Problem:	Air compressor does not run the air tools (does not supply the minimum necessary psi), especially when multiple stations are using air at the same time.
Proposed Solution:	Size or adjust the compressor to provide 150 psi continuous air supply.
Area/Component:	Component Parts Wash
Problem:	No list of approved detergents
Proposed Solution:	Provide a list of approved detergents for the component parts wash

Area/Component:	Maintenance Pit
Problem:	Cannot pump used POL out of pit. Need to carry out by hand.
Proposed Solution:	Provide a sump pump to remove used POL fluids.
Area/Component:	Maintenance Pit - Location
Problem:	Maintenance Pit is too close to wall and consolidated bench repair door. Cannot make the turn to get forklift in when servicing vehicle
Proposed Solution:	Relocate Maintenance Pit
Area/Component:	Waterless Urinals
Problem:	No information on required maintenance for waterless urinals provided to occupants
Proposed Solution:	Provide information on when and how to replace cartridges, and where to get them.
Area/Component:	2nd Floor beams
Problem:	Exposed ceiling in the combat spares and consolidated bench area. Exposed floor beams above for 2 nd floor admin space need to be protected for fire.
Proposed Solution:	There is currently a plan to enclose the ceiling in combat spares and consolidated bench area.
Area/Component:	Admin Area - Size
Problem:	There is not enough admin office space (or data ports) for all of the tenants/users or support teams that work in conjunction in the facility. There is no space for a SPO (Support Operations Cell), while there is space for BLST No office with a door for field grade officers in a supervisory position. Need at least one shared office for MCO (Maint Control Officer), MCS (Maint Control Specialist), and BMT (Battalion Maint Technician)
Proposed Solution:	Notify supervisors that there is office space in the COF to council personnel. Mechanical/Electrical Rooms have large empty/unused area. Consolidated bench may also have more space than required. Repurpose some of these spaces to provide separate office and more admin space if needed.

Appendix I: EPACT Facility Criteria

Component	Issue	Detail
Roof	Insulation Above Deck	
	Metal building Roof	R-13 + R-13
	Surface Reflectance	0.65
Walls	Steel framed	
	Metal	R-13
Slabs	Unheated	NR
	Heated	R-10
Doors	Swinging	U-0.70
	Non-Swinging	U-0.25
Infiltration		0.5 ACH
Vertical Glazing	Window to Wall Ratio	<10%
	Thermal Transmittance	U-0.45
	Solar Heat gain coefficient (SHGC)	0.44-N, 0.31-S, E, W
	South Overhangs	NR
Skylights	% roof area	2%
	Thermal Transmittance	U-0.69
	SHGC	0.19
Interior Lighting	Lighting Power Density	
	Ballast	Electronic
	Day lighting Controls	Yes
	Occupancy Controls	all unoccupied spaces
HVAC	Make Up Air Unit Fans	
	Air Conditioner	14 SEER
	Gas Coil	90% E
	Hydronic Radiant Floor Heat	Ground Floor
	ERV	Yes
Economizer		NR
Ventilation	Outdoor Air Damper	Motorized Control
	Demand Control	Yes
	Transpired Solar Collector	Yes
Ducts	Sealing	Seal Class B
	Location	Interior Only
	Insulation Level	R-6
Service Water Heating	Gas Storage	90% E

Appendix J: BUILDER FI Interval Mapping to ISR-I Definitions

ISR-I Functionality Definitions

ISR-I Rating	ISR-I Proposed Definitions
F1	Minimal or no facility condition deficiencies with <i>negligible or no impact</i> on the capability to support the tenant organizations' required missions
F2	Moderate facility functional/configuration deficiencies that have <i>limited impact</i> on the capability to support the tenant organizations' required missions. All essential/critical functional elements exist
F3	Significant facility functional/configuration deficiencies that <i>impair the capability</i> to support some of the tenant organizations required missions. Some essential/critical functional elements may be missing
F4	Major facility functional/configuration deficiencies that <i>present considerable obstacles</i> to the tenant organizations' accomplishment of required missions. Some essential/critical functional elements missing. All temporary facilities are F4
F5	Asset is non-functional and cannot be occupied. Out of service pending completion of renovation, repair of weather damage, remediation of environmental contamination, etc

ISR-BUILDER Integrated Definitions

ISR-I Rating	FI Range	Short Description	Functional Impairment Description	Modernization Needs
F1	100-85	Minimal to slight functional impairment	<p>All user requirements, codes, and compliance issues are largely met, with no impact on mission.</p> <p>A small number of secondary functional spaces may impair capabilities slightly due to configuration.</p> <p>A limited number of non-critical components may not meet requirements</p>	<p>Negligible overall building modernization</p> <p>Slight reconfiguration in a few functional areas</p> <p>Replacement of a few minor components</p>
F2	85-55	Minor to Moderate functional impairment	<p>User requirements, codes, and compliance largely met, with only minor impact on mission.</p> <p>The configuration in some functional spaces has a limited impact on mission operations.</p> <p>A moderate number of mostly non-critical components do not meet minimum requirements.</p>	<p>Minor overall building modernization</p> <p>Moderate reconfiguration of building functional areas</p> <p>Replacement of a limited number of components, mostly non-critical</p>
F3	55-40	Significant functional impairment	<p>A moderate number of basic requirements are not met, significantly impairing the capability of the facility</p> <p>The configuration in many functional spaces has significant impact on mission operations</p> <p>An significant number of components (critical and non-critical) do not meet minimum requirements</p>	<p>Significant overall building modernization</p> <p>Extensive reconfiguration of building functional areas</p> <p>Replacement of a significant number of components, including critical</p>
F4	40-10	Major to Extensive functional impairment	<p>Building presents considerable obstacles to meeting basic user requirements, or building is temporary.</p> <p>The configuration of the functional spaces greatly impairs critical mission operations.</p> <p>An extensive number of critical components are missing, or do not meet minimum requirements.</p>	<p>Major overall building modernization, Relocation or MILCON</p> <p>Total renovation of all functional spaces</p> <p>Replacement of most or all components</p>
F5	10-0	Total functional impairment	Overall Building is largely non-Functional for current use.	Relocation or MILCON

Appendix K: Army ISR-I Mapping to BUILDER Functionality Criteria, Administrative Facilities

ISR-I Component	ISR-I Sub Component	ISR-I Priority	
Sites and Grounds	Site and Grounds Lighting	High	
ISR-I Rating	ISR-I Criteria	BUILDER Category	BUILDER Sub Issue
Green	Security	Access	Building Entry
Green	Signage	Access	Building Entry
Green	Landscape	Access	Building Entry
Amber	Not more than 1 of the 4 types of lighting in the Green Column	Access	Building Entry
Red	Two or more of the 4 types of lighting in the Green Column are missing	Access	Building Entry
Red	No site and ground lighting exists	Access	Building Entry
ISR-I Component	ISR-I Sub Component	ISR-I Priority	
Sites and Grounds	Disabled Access	High	
ISR-I Rating	ISR-I Criteria	BUILDER Category	BUILDER Sub Issue
Green	Curb ramps are present wherever accessible routes cross a curb	Accessibility	ABA compliance
Green	Ramps are a minimum of 3 feet wide	Accessibility	ABA compliance
Green	Ramps have a moderate slope, not exceeding a rise of 1:12 inches horizontally	Accessibility	ABA compliance
Green	Access across the site follows the shortest accessible route to the facility	Accessibility	ABA compliance
Amber	1 or 2 of the 4 types of lighting in the Green column missing	Accessibility	ABA compliance
Red	More than 2 of the accessible criteria elements in the Green column are missing	Accessibility	ABA compliance
ISR-I Component	ISR-I Sub Component	ISR-I Priority	
Sites and Grounds	Turf and Pavement Drainage	High	
ISR-I Rating	ISR-I Criteria	BUILDER Category	BUILDER Sub Issue
Green	No access the site that follows the shortest accessible to the facility	Drainage	

Amber	Some debris lying along pavement drainage channels	Drainage	
ISR-I Component	ISR-I Sub Component	ISR-I Priority	
Sites and Grounds	Paved Sidewalks	Medium	
ISR-I Rating	ISR-I Criteria	BUILDER Category	BUILDER Sub Issue
Green	Installed from parking to facility	Access	Building Entry
Green	Installed from adjacent streets to facility	Access	Building Entry
Green	At least 4 feet wide	Access	Building Entry
Amber	Not installed from parking to facility	Access	Building Entry
Amber	Not installed from streets to facility	Access	Building Entry
Amber	Less than 4 feet wide	Access	Building Entry
Red	Not installed at all	Access	Building Entry
ISR-I Component	ISR-I Sub Component	ISR-I Priority	
Sites and Grounds	Landscaping	Low	
ISR-I Rating	ISR-I Criteria	BUILDER Category	BUILDER Sub Issue
Green	Displays a mixture of colorful plants and greenery appropriate to the area	Aesthetics	Exterior Aesthetics
Amber	Displays few color plantings or greenery	Aesthetics	Exterior Aesthetics
Red	No plantings	Aesthetics	Exterior Aesthetics
ISR-I Component	ISR-I Sub Component	ISR-I Priority	
Sites and Grounds	Dumpster	Low	
ISR-I Rating	ISR-I Criteria	BUILDER Category	BUILDER Sub Issue
Green	Screened by walls or landscaping high enough (6-8ft) to restrict view from: Building Occupants	Aesthetics	Exterior Aesthetics
Green	Screened by walls or landscaping high enough (6-8ft) to restrict view from: Entrances	Aesthetics	Exterior Aesthetics
Green	Screened by walls or landscaping high enough (6-8ft) to restrict view from: Streets	Aesthetics	Exterior Aesthetics
Green	Screened by walls or landscaping high enough (6-8ft) to restrict view from: Parking Lots	Aesthetics	Exterior Aesthetics
Green	33 feet or more away from other occupied buildings	AT/FP	ATFP Requirements
Green	82 feet or more away from billeting or housing	AT/FP	ATFP Requirements

Amber	Not screened by walls or landscaping sufficiently high to obscure view	Aesthetics	Exterior Aesthetics
Amber	More than 20 feet away, but less than 33 feet away from other occupied facilities	AT/FP	ATFP Requirements
Amber	More than 50 feet away, but less than 82 feet away from billeting or housing	AT/FP	ATFP Requirements
Red	Not enclosed or screened from view	Aesthetics	Exterior Aesthetics
Red	Less than 20 feet away from other occupied facilities	AT/FP	ATFP Requirements
Red	Less than 50 feet away from billeting or housing	AT/FP	ATFP Requirements
ISR-I Component	ISR-I Sub Component	ISR-I Priority	
Sites and Grounds	Utility Services	Low	
ISR-I Rating	ISR-I Criteria	BUILDER Category	BUILDER Sub Issue
Green	All utility lines are underground	Aesthetics	Exterior Aesthetics
Green	Utility equipment is screened by landscaping or fencing	Aesthetics	Exterior Aesthetics
Amber	Utility lines are not underground	Aesthetics	Exterior Aesthetics
Amber	Utility equipment is screened by landscaping or fencing	Aesthetics	Exterior Aesthetics
Red	Utility lines and equipment are exposed and disorderly	Aesthetics	Exterior Aesthetics
ISR-I Component	ISR-I Sub Component	ISR-I Priority	
Parking	Disabled Parking	High	
ISR-I Rating	ISR-I Criteria	BUILDER Category	BUILDER Sub Issue
Green	One of every 25 parking spaces is designated for the disabled	Accessibility	ABA compliance
Green	The 1:25 standard does not have to be met, but spaces should be provided for disabled personnel and visitors to facility	Accessibility	ABA compliance
Green	Accessible parking spaces are at least 8 feet wide and have 5 additional feet for exiting the car	Accessibility	ABA compliance
Green	Disabled parking is near the shortest possible route to an accessible entrance	Accessibility	ABA compliance
Green	Accessible spaces are designated with signs	Accessibility	ABA compliance
Green	Curb ramps are available wherever an accessible route crosses a curb at a rise of 1:12 or less	Accessibility	ABA compliance
Green	Ramps are available for disabled parking, as needed, with maximum rise of 1:12	Accessibility	ABA compliance

Amber	Meets 1 of the first two criteria in the Green column, depending on facility use	Accessibility	ABA compliance
Amber	For both kinds of facilities:	Accessibility	ABA compliance
Amber	Accessible parking spaces are at least 8 feet wide and have 5 additional feet for exiting the car	Accessibility	ABA compliance
Amber	Meets 2 or 3 of the elements outlined in the Green column	Accessibility	ABA compliance
Red	Neither of the first 2 criteria in the Green column is met	Accessibility	ABA compliance
Red	For both kinds of facilities:	Accessibility	ABA compliance
Red	Accessible parking spaces are at less than 8 feet wide or do not have 5 additional feet for exiting the car	Accessibility	ABA compliance
Red	Meets 1 or none of the elements outlined in the Green Column	Accessibility	ABA compliance
ISR-I Component	ISR-I Sub Component	ISR-I Priority	
Parking	Parking Availability	High	
ISR-I Rating	ISR-I Criteria	BUILDER Category	BUILDER Sub Issue
Green	Parking spaces are available on the installation for all personnel and visitors	Size/Configuration	Overcrowding
Amber	Parking spaces are available on the installation for 75%-99% of personnel and visitors	Size/Configuration	Overcrowding
Red	Parking spaces are available on the installation for less than 75% of personnel and visitors	Size/Configuration	Overcrowding
ISR-I Component	ISR-I Sub Component	ISR-I Priority	
Parking	Parking Area Standoff	High	
ISR-I Rating	ISR-I Criteria	BUILDER Category	BUILDER Sub Issue
Green	Parking spaces are located 82 feet or more away from occupied facilities	Access	Building Entry
Green	Within controlled perimeters, parking spaces are located 33 feet or more away from occupied facilities	Access	Building Entry
Red	Parking spaces are located less than 82 feet away from occupied facilities	Access	Building Entry
Red	Within controlled perimeters, parking spaces are located less than 33 feet from occupied facilities	Access	Building Entry
ISR-I Component	ISR-I Sub Component	ISR-I Priority	
Parking	Parking Area Lighting	Medium	
ISR-I Rating	ISR-I Criteria	BUILDER Category	BUILDER Sub Issue

Green	Provides direct or area lighting for :Traffic flow during low visibility	Access	Building Entry
Green	Provides direct or area lighting for: Pedestrian movement	Access	Building Entry
Green	Provides direct or area lighting for: Signage	Access	Building Entry
Amber	Not more than 1 of the 3 types of lighting in the Green column is missing	Access	Building Entry
Red	More than 1 of the 3 types of lighting in the Green column is missing	Access	Building Entry
ISR-I Component	ISR-I Sub Component	ISR-I Priority	
Parking	Parking Spaces	Medium	
ISR-I Rating	ISR-I Criteria	BUILDER Category	BUILDER Sub Issue
Green	Spaces marked on pavement	Aesthetics	Exterior Aesthetics
Green	Sized 8.5 feet wide by 16-18 feet long	Aesthetics	Exterior Aesthetics
Amber	Spaces marked on pavement, but re-stripping is needed	Aesthetics	Exterior Aesthetics
Red	Spaces not identified	Aesthetics	Exterior Aesthetics
Red	Less than 8.5 wide by 16-18 long	Aesthetics	Exterior Aesthetics
ISR-I Component	ISR-I Sub Component	ISR-I Priority	
Parking	Parking Landscaping	Low	
ISR-I Rating	ISR-I Criteria	BUILDER Category	BUILDER Sub Issue
Green	Displays a mixture of colorful plants and greenery appropriate to the area	Aesthetics	Exterior Aesthetics
Amber	Displays few plantings of color and greenery	Aesthetics	Exterior Aesthetics
Red	No plantings	Aesthetics	Exterior Aesthetics
ISR-I Component	ISR-I Sub Component	ISR-I Priority	
Parking	Parking Signage	Low	
ISR-I Rating	ISR-I Criteria	BUILDER Category	BUILDER Sub Issue
Green	Lot(s) and rows have identity signs and traffic control signs, all clearly legible	Access	Directional Info and Signage
Green	Signs provide directions from parking areas along walkways to the facility	Access	Directional Info and Signage
Amber	Limited traffic control and lot/row identity signs; signs hard to read from vehicles	Access	Directional Info and Signage

Amber	Signs providing directions from parking areas along walkways to the facility are not current or are illegible	Access	Directional Info and Signage
Red	No traffic control signs, or no lot and row markings	Access	Directional Info and Signage
Red	No signs from parking to the facility	Access	Directional Info and Signage
ISR-I Component	ISR-I Sub Component	ISR-I Priority	
Building Exterior General	Outside Drainage	High	
ISR-I Rating	ISR-I Criteria	BUILDER Category	BUILDER Sub Issue
Green	Outflow drains away from the building	Drainage	
Amber	Outflow ponds at the building base around splash blocks	Drainage	
Red	Outflow ponds at building base; no splash blocks	Drainage	
ISR-I Component	ISR-I Sub Component	ISR-I Priority	
Building Exterior General	Exterior Lighting	High	
ISR-I Rating	ISR-I Criteria	BUILDER Category	BUILDER Sub Issue
Green	Security	Access	Building Entry
Green	Pedestrian movement	Access	Building Entry
Green	Safety and exit routes	Access	Building Entry
Green	General Exterior	Access	Building Entry
Amber	Not more than 1 of the 4 types of lighting in the Green Column is missing	Access	Building Entry
Red	Two or more of the 4 types of lighting in the Green Column are missing	Access	Building Entry
ISR-I Component	ISR-I Sub Component	ISR-I Priority	
Building Exterior General	Disabled Access	High	
ISR-I Rating	ISR-I Criteria	BUILDER Category	BUILDER Sub Issue
Green	At least 1 main entry door allows disabled access to each public or work space area within the building	Accessibility	ABA compliance
Green	At entries with doors in series, clearances for the disabled are 48 inches clear of any door swing	Accessibility	ABA compliance
Green	Next to any revolving door there is a single leaf door for the disabled	Accessibility	ABA compliance

Green	A service entry is not the sole disabled accessible entry, unless it is the only entry	Accessibility	ABA compliance
Green	Accessible exit door connects to bus stops, disabled parking/loading zones, and public streets by an accessible route	Accessibility	ABA compliance
Amber	3 or more of the 5 conditions in the Green column are met	Accessibility	ABA compliance
Red	Less than 3 of the 5 conditions in the Green column are met	Accessibility	ABA compliance
Red	Building is inaccessible to the disabled	Accessibility	ABA compliance

ISR-I Component	ISR-I Sub Component	ISR-I Priority
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Building
Exterior
General

Building Exterior Signage

Medium

ISR-I Rating	ISR-I Criteria	BUILDER Category	BUILDER Sub Issue
Green	Coordinated, clearly visible, and readable	Access	Directional Info and Signage
Green	Includes directions to parking, entrances, and facilities	Access	Directional Info and Signage
Green		Access	Directional Info and Signage
Amber		Information is current	Access
Amber	Not well coordinated but readable	Access	Directional Info and Signage
Amber	Missing directories to parking, entrances, or facilities	Access	Directional Info and Signage
Red	In very poor condition; not visible or legible	Access	Directional Info and Signage
Red	Directions not available	Access	Directional Info and Signage
Red	Information is not current	Access	Directional Info and Signage
ISR-I Component	ISR-I Sub Component	ISR-I Priority	

Building
Exterior
General

Mechanical Equipment

Low

ISR-I Rating	ISR-I Criteria	BUILDER Category	BUILDER Sub Issue
Green	Screened and painted to match the building design	Aesthetics	Exterior Aesthetics
Amber	Unscreened, but painted to match the building color	Aesthetics	Exterior Aesthetics
Red	Unscreened, but not painted to match the building color	Aesthetics	Exterior Aesthetics
ISR-I Component	ISR-I Sub Component	ISR-I Priority	

Building
Exterior -
Roof

Roof

High

ISR-I Rating	ISR-I Criteria	BUILDER Category	BUILDER Sub Issue
Green	Walkways prevent foot traffic damage	Size/Configuration	Building Configuration
Amber	Walkways are present, but there is noticeable damage to roof material	Size/Configuration	Building Configuration
Red	No walkways; noticeable damage to roof material	Size/Configuration	Building Configuration
ISR-I Component	ISR-I Sub Component	ISR-I Priority	

Loading Dock
/ Service
Area

Lighting & Outlets

High

ISR-I Rating	ISR-I Criteria	BUILDER Category	BUILDER Sub Issue
Green	Waterproof, Ground Fault Interrupt (GFI) rated electrical outlets are available on the loading dock and in the truck spotting area	Building Services	Electrical Sys Capacity
Amber	Some outlets on the loading dock and within the truck area are not waterproof or GFI rated	Building Services	Electrical Sys Capacity
Red	No waterproof or GFI rated outlets available for the loading dock and truck spotting areas	Building Services	Electrical Sys Capacity
ISR-I Component	ISR-I Sub Component	ISR-I Priority	

Loading Dock
/ Service
Area

Truck Area

High

ISR-I Rating	ISR-I Criteria	BUILDER Category	BUILDER Sub Issue
Green	Trucks have easy and safe access to loading area and dock	Access	Building Entry
Amber	Truck access is safe, but has some space restrictions	Access	Building Entry
Red	Unsafe truck access to service area and dock space	Access	Building Entry
ISR-I Component	ISR-I Sub Component	ISR-I Priority	

Loading Dock
/ Service
Area

Service Doors

Medium

ISR-I Rating	ISR-I Criteria	BUILDER Category	BUILDER Sub Issue
Green	Service and personnel doors are large enough for easy access	Access	Building Entry

Amber	Service and personnel doors provide limited access	Access	Building Entry
Red	Service and personnel doors provide inadequate access	Access	Building Entry
ISR-I Component	ISR-I Sub Component	ISR-I Priority	
Loading Dock / Service Area	Dock Boards & Station Lifts	Medium	
ISR-I Rating	ISR-I Criteria	BUILDER Category	BUILDER Sub Issue
Green	Loading dock is sized to meet mission requirements	Size/Configuration	Building Configuration
Green	If required, station lifts are available and working	Size/Configuration	Building Configuration
Amber	Loading dock exists, but is not sized to meet mission needs	Size/Configuration	Building Configuration
Amber	If required, station lifts are present, but not working	Size/Configuration	Building Configuration
Red	No loading dock exists, although one is required	Size/Configuration	Building Configuration
Red	Station lifts, if required, are not available	Size/Configuration	Building Configuration
ISR-I Component	ISR-I Sub Component	ISR-I Priority	
Loading Dock / Service Area	Signage	Medium	
ISR-I Rating	ISR-I Criteria	BUILDER Category	BUILDER Sub Issue
Green	Present and current	Access	Directional Info and Signage
Amber	Present, but not current	Access	Directional Info and Signage
Red	No signs available	Access	Directional Info and Signage
ISR-I Component	ISR-I Sub Component	ISR-I Priority	
Loading Dock / Service Area	Dock Walls	Low	
ISR-I Rating	ISR-I Criteria	BUILDER Category	BUILDER Sub Issue
Green	Bollards (posts) protect dock walls, corners and doorways from Material Handling Equipment (MHE)	Size/Configuration	Building Configuration
Amber	Bollards are in place, but do not protect dock walls, corners, and/or doorways	Size/Configuration	Building Configuration
Red	Bollards need to be replaced or are missing	Size/Configuration	Building Configuration

ISR-I Component	ISR-I Sub Component	ISR-I Priority	
Lobby	Lobby Area	High	
ISR-I Rating	ISR-I Criteria	BUILDER Category	BUILDER Sub Issue
Green	Space layout meets mission needs	Size/Configuration	Building Configuration
Amber	Space layout restricts movement in lobby or restricts mission needs	Size/Configuration	Building Configuration
Red	Space layout is inadequate to fulfill mission needs	Size/Configuration	Building Configuration
ISR-I Component	ISR-I Sub Component	ISR-I Priority	
Lobby	Lighting & Outlets	High	
ISR-I Rating	ISR-I Criteria	BUILDER Category	BUILDER Sub Issue
Green	At least one electrical duplex outlet (three prong grounded) on all wall surfaces	Building Services	Electrical Sys Capacity
Amber	One or more walls lack grounded duplex outlets	Building Services	Electrical Sys Capacity
Red	No grounded duplex outlets in lobby	Building Services	Electrical Sys Capacity
ISR-I Component	ISR-I Sub Component	ISR-I Priority	
Lobby	Signage	High	
ISR-I Rating	ISR-I Criteria	BUILDER Category	BUILDER Sub Issue
Green	Present and current; includes a building directory	Access	Directional Info and Signage
Amber	Present, but not current; does not include a building directory	Access	Directional Info and Signage
Red	No present	Access	Directional Info and Signage
ISR-I Component	ISR-I Sub Component	ISR-I Priority	
Lobby	Interior Doors	Medium	
ISR-I Rating	ISR-I Criteria	BUILDER Category	BUILDER Sub Issue
Green	Allow access by the disabled to public or work spaces in the facility	Accessibility	ABA compliance
Green	Interior doors that are also fire/exit doors, and normally in an open position, are equipped with automatic closure devices and panic hardware	Environment/Life Safety	Fire/Smoke Detection
Green	Panic hardware does not require a key or special tools to open from inside	Environment/Life Safety	Fire/Smoke Detection
Red	Do not allow access by the disabled to public or work spaces in the facility	Accessibility	ABA compliance

Red	Interior doors that are also fire/exit doors, and normally in an open position, are not equipped with automatic closure devices and/or panic hardware	Environment/Life Safety	Fire/Smoke Detection
Red	Panic hardware requires a key or special tools to open from inside	Environment/Life Safety	Fire/Smoke Detection
ISR-I Component	ISR-I Sub Component	ISR-I Priority	
Lobby	Telephone System	Medium	
ISR-I Rating	ISR-I Criteria	BUILDER Category	BUILDER Sub Issue
Green	Enough telephone jacks are available to support current mission requirements	Building Services	Telephone System
Amber	Not enough telephone jacks are available	Building Services	Telephone System
Red	If required, telephone jacks are not available	Building Services	Telephone System
ISR-I Component	ISR-I Sub Component	ISR-I Priority	
Lobby	Computer LAN System	Medium	
ISR-I Rating	ISR-I Criteria	BUILDER Category	BUILDER Sub Issue
Green	Enough LAN outlets are available to support mission requirements	Building Services	Building IT System
Amber	Not enough LAN outlets are available	Building Services	Building IT System
Red	If required, LAN outlets are not available	Building Services	Building IT System
ISR-I Component	ISR-I Sub Component	ISR-I Priority	
Corridors	Corridor Transit Area	High	
ISR-I Rating	ISR-I Criteria	BUILDER Category	BUILDER Sub Issue
Green	Minimum of 4 feet wide	Size/Configuration	Building Configuration
Green	Fire extinguishers in secure boxes	Size/Configuration	Building Configuration
Amber	Corridors meet 2 of the 3 bulleted elements	Size/Configuration	Building Configuration
Red	Less than 2 of the bulleted elements in the Green column are met	Size/Configuration	Building Configuration
ISR-I Component	ISR-I Sub Component	ISR-I Priority	
Corridors	Lighting & Outlets	High	
ISR-I Rating	ISR-I Criteria	BUILDER Category	BUILDER Sub Issue
Green	At least one electrical duplex (three prong grounded) outlet on all wall surfaces	Building Services	Electrical Sys Capacity

Amber	One or more walls lack grounded duplex outlets	Building Services	Electrical Sys Capacity
Red	No grounded duplex outlets in Lobby, or	Building Services	Electrical Sys Capacity
ISR-I Component	ISR-I Sub Component	ISR-I Priority	
Corridors	Corridor Doors	High	
ISR-I Rating	ISR-I Criteria	BUILDER Category	BUILDER Sub Issue
Green	Allow access by the disabled to public or work spaces in the facility	Accessibility	ABA compliance
Green	Interior doors that are also fire/exit doors, and normally in an open position, are equipped with automatic closure devices and panic hardware	Environment/Life Safety	Fire/Smoke Detection
Green	Interior doors that exit to the exterior are metal or solid core wood and open easily from the inside	Access	Building Entry
Green	Panic hardware does not require a key or special tools to open from inside.	Environment/Life Safety	Fire/Smoke Detection
Red	Does not allow access by the disabled to public or work spaces in the facility	Accessibility	ABA compliance
Red	Interior doors that are also fire/exit doors, and normally in an open position, are not equipped with automatic closure devices and/or panic hardware	Environment/Life Safety	Fire/Smoke Detection
Red	Interior doors that exit to the exterior are not metal or solid core wood or do not open easily from the inside	Access	Building Entry
Red	Panic hardware requires a key or special tools to open from inside	Environment/Life Safety	Fire/Smoke Detection
ISR-I Component	ISR-I Sub Component	ISR-I Priority	
Stairs	Stair Doors	High	
ISR-I Rating	ISR-I Criteria	BUILDER Category	BUILDER Sub Issue
Green	Panic hardware does not require key or special tools to operate from inside	Environment/Life Safety	Fire/Smoke Detection
Red	Panic hardware requires key or special tools to operate from inside	Environment/Life Safety	Fire/Smoke Detection
ISR-I Component	ISR-I Sub Component	ISR-I Priority	
Stairs	Lighting and Outlets	High	
ISR-I Rating	ISR-I Criteria	BUILDER Category	BUILDER Sub Issue
Green	If required, there is at least on GFI outlet at each floor landing	Building Services	Electrical Grounding System

Amber	If required, there is at least one GFI outlet at each floor landing	Building Services	Electrical Grounding System
Red	Although required, there is no outlet at each floor landing	Building Services	Electrical Grounding System
ISR-I Component	ISR-I Sub Component	ISR-I Priority	
Elevators	Safety Standards	High	
ISR-I Rating	ISR-I Criteria	BUILDER Category	BUILDER Sub Issue
Green	Emergency power circuits for lights, speaker, telephones, and controls are present and work well	Building Services	Electrical Sys Capacity
Green	Firefighter key control available	Environment/Life Safety	Fire/Smoke Detection
Green	Controls and signals work and accommodate the disabled	Accessibility	ABA compliance
Green	Current Certificate of Inspection is posted on Cab or is on file with responsible party	Aesthetics	Interior Aesthetics
ISR-I Component	ISR-I Sub Component	ISR-I Priority	
Elevators	Capacity	High	
ISR-I Rating	ISR-I Criteria	BUILDER Category	BUILDER Sub Issue
Green	Number and size of elevators support population served	Size/Configuration	Occupant Interaction
Amber	Number and size of elevators support 75% of population served	Size/Configuration	Occupant Interaction
Red	Number and size of elevators support less than 75% of population served	Size/Configuration	Occupant Interaction
ISR-I Component	ISR-I Sub Component	ISR-I Priority	
Elevators	Elevator Signage	Low	
ISR-I Rating	ISR-I Criteria	BUILDER Category	BUILDER Sub Issue
Green	In place, inside and outside the Cabs	Access	Directional Info and Signage
Green	Readable and current	Access	Directional Info and Signage
Amber	Readable but not current	Access	Directional Info and Signage
Red	Not available	Access	Directional Info and Signage
Red	Not readable or current	Access	Directional Info and Signage
ISR-I Component	ISR-I Sub Component	ISR-I Priority	
Escalators	Safety Standards	High	

ISR-I Rating	ISR-I Criteria	BUILDER Category	BUILDER Sub Issue
Green	Width is minimum of 32 inches	Size/Configuration	Occupant Interaction
Green	Emergency stop controls at the top and bottom of the escalator work well	Missing/Improper Comps	Are all the necessary components present?
Green	Overhead smoke/heat detectors and sprinkler heads are tied to provide protection in case of fire	Environment/Life Safety	Fire/Smoke Detection
ISR-I Component	ISR-I Sub Component	ISR-I Priority	
Escalators	Signage	Low	
ISR-I Rating	ISR-I Criteria	BUILDER Category	BUILDER Sub Issue
Green	Well placed for easy location of escalators	Access	Directional Info and Signage
Green	Highly visible and readable	Access	Directional Info and Signage
Amber	Signage is available, but not well placed	Access	Directional Info and Signage
Amber	Hard to read	Access	Directional Info and Signage
Red	Not in place	Access	Directional Info and Signage
ISR-I Component	ISR-I Sub Component	ISR-I Priority	
Administrative Areas	Work Area	High	
ISR-I Rating	ISR-I Criteria	BUILDER Category	BUILDER Sub Issue
Green	Flexible layout; space meets mission needs	Size/Configuration	Occupant Interaction
Green	Sufficient storage space, close to work stations, meets mission needs	Size/Configuration	Building Configuration
Amber	Space restricts aisle and workstation layout	Size/Configuration	Occupant Interaction
Amber	Marginal storage space, not close to workstations, but meets mission needs	Size/Configuration	Building Configuration
Red	Workstation layout does not meet needs	Size/Configuration	Occupant Interaction
Red	Little to no storage space; hinders effective operations	Size/Configuration	Building Configuration
ISR-I Component	ISR-I Sub Component	ISR-I Priority	
Administrative Areas	Lighting and Outlets	High	

ISR-I Rating	ISR-I Criteria	BUILDER Category	BUILDER Sub Issue
Green	At least one electrical duplex (three prong grounded) outlet at all workstations	Building Services	Electrical Grounding System
Green	Besides workstations, there is at least one electrical duplex outlet on all interior walls of the area	Building Services	Electrical Grounding System
Amber	One or more walls lack grounded duplex outlets	Building Services	Electrical Grounding System
Amber	Besides workstations, there is at least one electrical duplex outlet on 1 wall of the area	Building Services	Electrical Grounding System
Red	No grounded duplex outlets at workstations	Building Services	Electrical Grounding System
Red	No additional electrical outlets other than those at workstations	Building Services	Electrical Grounding System
ISR-I Component	ISR-I Sub Component	ISR-I Priority	
Administrative Areas	Computer/LAN system	High	
ISR-I Rating	ISR-I Criteria	BUILDER Category	BUILDER Sub Issue
Green	Enough LAN outlets are available to support current mission requirements	Building Services	Building IT System
Amber	Not enough LAN outlets are available	Building Services	Building IT System
Red	If required, LAN outlets are not available	Building Services	Building IT System
ISR-I Component	ISR-I Sub Component	ISR-I Priority	
Administrative Areas	Telephone System	High	
ISR-I Rating	ISR-I Criteria	BUILDER Category	BUILDER Sub Issue
Green	Enough telephone jacks are available to support current mission requirements	Building Services	Telephone System
Amber	Not enough telephone jacks are available	Building Services	Telephone System
Red	If required telephone jacks are not available	Building Services	Telephone System
ISR-I Component	ISR-I Sub Component	ISR-I Priority	
Administrative Areas	Interior Doors	Medium	
ISR-I Rating	ISR-I Criteria	BUILDER Category	BUILDER Sub Issue

Red	Do not allow access by the disabled to public or work spaces in the facility	Accessibility	ABA compliance
Red	Doors that exit to the exterior are not equipped with fire/exit signs and panic hardware	Missing/Improper Comps	Missing Components?
ISR-I Component	ISR-I Sub Component	ISR-I Priority	
Bathrooms	Ventilation	High	
ISR-I Rating	ISR-I Criteria	BUILDER Category	BUILDER Sub Issue
Green	Ventilation integrated into forced air system	Comfort	Ventilation Capacity
Amber	Fans provided, but not integrated into forced air system	Comfort	Ventilation Capacity
Red	Poor or no ventilation	Comfort	Ventilation Capacity
ISR-I Component	ISR-I Sub Component	ISR-I Priority	
Bathrooms	Toilets/Sinks Availability	High	
ISR-I Rating	ISR-I Criteria	BUILDER Category	BUILDER Sub Issue
Green	Number of stalls, urinals, and sinks satisfy population served	Building Services	Plumbing Fixtures
Amber	Number of stalls, urinals, and sinks support population served	Building Services	Plumbing Fixtures
Red	Number of stalls, urinals, and sinks do not support population served	Building Services	Plumbing Fixtures
ISR-I Component	ISR-I Sub Component	ISR-I Priority	
Bathrooms	Disabled Access	High	
ISR-I Rating	ISR-I Criteria	BUILDER Category	BUILDER Sub Issue
Green	At least one stall is 56x60 inches, with grab bars and a 48-inch-wide clear approach	Accessibility	ABA compliance
Green	At least one sink is mounted no higher than 34 inches off floor, with 27 inches of clear space under sink, and 48 inches clearance to back out	Accessibility	ABA compliance
Amber	Stall clearances will not allow person in wheel chair to roll in and close the stall door	Accessibility	ABA compliance
Amber	Clearances to maneuver are less than required	Accessibility	ABA compliance
Red	No accessibility for the disabled	Accessibility	ABA compliance
ISR-I Component	ISR-I Sub Component	ISR-I Priority	
Bathrooms	Lighting and Outlets	High	
ISR-I Rating	ISR-I Criteria	BUILDER Category	BUILDER Sub Issue

Green	All outlets grounded/GFI rated available where water may be present	Building Services	Electrical Sys Capacity
Amber	All outlets grounded/GFI rated available where water may be present	Building Services	Electrical Sys Capacity
Red	Underground outlets or outlets where water may be present are not GFI rated	Building Services	Electrical Sys Capacity
ISR-I Component	ISR-I Sub Component	ISR-I Priority	
Bathrooms	Bathroom Accessories	Low	
ISR-I Rating	ISR-I Criteria	BUILDER Category	BUILDER Sub Issue
Green	Dispensers for hand soap, towels, toilet paper, disposal containers for hygiene products, etc., are present and easily accessible	Missing/Improper Comps	Missing Components?
Amber	Accessories are available, but difficult to access	Missing/Improper Comps	Missing Components?
Red	Accessories are not available	Missing/Improper Comps	Missing Components?
ISR-I Component	ISR-I Sub Component	ISR-I Priority	
EOC/SCIF Facility	Controlled Access	High	
ISR-I Rating	ISR-I Criteria	BUILDER Category	BUILDER Sub Issue
Green	Facility configuration and condition supports effective controlled access	Size/Configuration	Building Configuration
Red	Facility configuration and condition does not support effective controlled access	Size/Configuration	Building Configuration
ISR-I Component	ISR-I Sub Component	ISR-I Priority	
EOC/SCIF Facility	Space Layout	High	
ISR-I Rating	ISR-I Criteria	BUILDER Category	BUILDER Sub Issue
Green	Flexible layout meets Sensitive Compartmented Information Facility (SCIF) standards	Size/Configuration	Building Configuration
Green	Sufficient storage space, meets SCIF standards	Size/Configuration	Building Configuration
Amber	Space restricts operations, but meets SCIF standards	Size/Configuration	Building Configuration
Amber	Marginal storage space, meets SCIF standards	Size/Configuration	Building Configuration
Red	Layout does not meet SCIF standards	Size/Configuration	Building Configuration
Red	Little to no storage space, does not meet SCIF Standards	Size/Configuration	Building Configuration

ISR-I Component	ISR-I Sub Component	ISR-I Priority	
EOC/SCIF Facility	Telephone System	High	
ISR-I Rating	ISR-I Criteria	BUILDER Category	BUILDER Sub Issue
Green	Enough telephone jacks are available and working	Building Services	Telephone System
Green	Telephone system offers security for classified discussions IAW SCIF area requirements	Building Services	Telephone System
Red	Not enough telephone jacks and not reliably working	Building Services	Telephone System
Red	Telephone jacks fail to meet the security requirements for classified discussions IAW SCIF standards	Building Services	Telephone System
ISR-I Component	ISR-I Sub Component	ISR-I Priority	
EOC/SCIF Facility	Computer/LAN Systems	High	
ISR-I Rating	ISR-I Criteria	BUILDER Category	BUILDER Sub Issue
Green	Enough LAN outlets available and working	Building Services	Building IT System
Green	LAN outlets offer security for the exchange of classified information IAW SCIF standards	Building Services	Building IT System
Red	Not enough LAN outlets available and not reliably working	Building Services	Building IT System
Red	If available, outlets do not offer the security level needed to exchange classified information IAW SCIF standards	Building Services	Building IT System
ISR-I Component	ISR-I Sub Component	ISR-I Priority	
EOC/SCIF Facility	Lighting and Outlets	High	
ISR-I Rating	ISR-I Criteria	BUILDER Category	BUILDER Sub Issue
Green	Emergency and exit lights work; powered by emergency power or battery backup	Building Services	Electrical Sys Capacity
Amber	Emergency and exit lights need repairs or have no emergency or battery backup	Building Services	Electrical Sys Capacity
Red	Emergency and exit lights are not in place	Building Services	Electrical Sys Capacity
ISR-I Component	ISR-I Sub Component	ISR-I Priority	
EOC/SCIF Facility	Ceilings	Medium	
ISR-I Rating	ISR-I Criteria	BUILDER Category	BUILDER Sub Issue

Green	Ceilings conform to SCIF requirements	AT/FP	ATFP Requirements
Red	Ceilings do not conform to SCIF standards	AT/FP	ATFP Requirements
ISR-I Component	ISR-I Sub Component	ISR-I Priority	
EOC/SCIF Facility	Floors	Medium	
ISR-I Rating	ISR-I Criteria	BUILDER Category	BUILDER Sub Issue
Green	Floors conform to SCIF standards	AT/FP	ATFP Requirements
Red	Floors do not conform to SCIF standards	AT/FP	ATFP Requirements
ISR-I Component	ISR-I Sub Component	ISR-I Priority	
EOC/SCIF Facility	Walls	Medium	
ISR-I Rating	ISR-I Criteria	BUILDER Category	BUILDER Sub Issue
Green	Walls material and construction meet SCIF standards	AT/FP	ATFP Requirements
Red	One or more walls materials and construction fail to meet SCIF standards	AT/FP	ATFP Requirements
ISR-I Component	ISR-I Sub Component	ISR-I Priority	
EOC/SCIF Facility	Doors	Medium	
ISR-I Rating	ISR-I Criteria	BUILDER Category	BUILDER Sub Issue
Green	Doors meet SCIF standards	AT/FP	ATFP Requirements
Red	One or more doors fail to meet SCIF standards	AT/FP	ATFP Requirements
ISR-I Component	ISR-I Sub Component	ISR-I Priority	
Kitchenette	Plumbing Fixtures	High	
ISR-I Rating	ISR-I Criteria	BUILDER Category	BUILDER Sub Issue
Green	Ample hot water	Building Services	Hot Water Supply
Amber	Lukewarm "hot" water	Building Services	Hot Water Supply
Red	No hot water	Building Services	Hot Water Supply
ISR-I Component	ISR-I Sub Component	ISR-I Priority	
Kitchenette	Cabinets and Countertops	High	
ISR-I Rating	ISR-I Criteria	BUILDER Category	BUILDER Sub Issue

Green	Ample space is provided	Size/Configuration	Building Configuration
Red	Inadequate space is provided	Size/Configuration	Building Configuration
ISR-I Component	ISR-I Sub Component	ISR-I Priority	
Kitchenette	Appliances	High	
ISR-I Rating	ISR-I Criteria	BUILDER Category	BUILDER Sub Issue
Green	They include a refrigerator/freezer, a cook-top and over or microwave	Missing/Improper Comps	Missing Components?
Amber	They include a refrigerator/freezer, a cook-top and oven or microwave	Missing/Improper Comps	Missing Components?
Red	Some standards appliances are missing	Missing/Improper Comps	Missing Components?
ISR-I Component	ISR-I Sub Component	ISR-I Priority	
Kitchenette	Ventilation	Medium	
ISR-I Rating	ISR-I Criteria	BUILDER Category	BUILDER Sub Issue
Green	Ventilation integrated into forced air system	Comfort	Ventilation Capacity
Amber	Fans provided, but not integrated into forced air system	Comfort	Ventilation Capacity
Red	Poor or no ventilation	Comfort	Ventilation Capacity
ISR-I Component	ISR-I Sub Component	ISR-I Priority	
Bathrooms	Plumbing Fixtures	High	
ISR-I Rating	ISR-I Criteria	BUILDER Category	BUILDER Sub Issue
Green	Ample hot water	Building Services	Hot Water Supply
Amber	Lukewarm "hot" water	Building Services	Hot Water Supply
Red	No hot water	Building Services	Hot Water Supply

Appendix L: Army ISR-I Mapping to BUILDER Functionality Criteria, Maintenance Facilities

ISR-I Component	ISR-I Sub Component	ISR-I Priority	
Sites and Grounds	Lighting	High	
ISR-I Rating	ISR-I Criteria	BUILDER Category	BUILDER Sub Issue
Green	Has Lighting for Pedestrian, signage, security, Landscaping	Access	Building Entry
Amber	No more than 1 of the 4 types of lighting in Green column missing	Access	Building Entry
Red	Two or more of the 4 types of lighting in Green column missing	Access	Building Entry
Red	No Site and Grounds lighting exists	Access	Building Entry
ISR-I Component	ISR-I Sub Component	ISR-I Priority	
Sites and Grounds	Disabled Access	High	
ISR-I Rating	ISR-I Criteria	BUILDER Category	BUILDER Sub Issue
Green	AccessibilityAG/UFAS accessible walkways	Accessibility	ABA compliance
Green	Curb ramps are present where accessible routes cross a curb	Accessibility	ABA compliance
Green	Ramps are minimum of 3 feet wide	Accessibility	ABA compliance
Green	Ramps of moderate slope, not exceeding a rise of 1:12 (one inch vertical per 12 inches horizontal	Accessibility	ABA compliance
Green	Provides shortest accessible route to the facility	Accessibility	ABA compliance
Amber	AccessibilityAG/UFAS accessible walkways	Accessibility	ABA compliance
Amber	Curb ramps are present where accessible routes cross a curb	Accessibility	ABA compliance
Amber	Ramps are minimum of 3 feet wide	Accessibility	ABA compliance
Amber	Ramps of moderate slope, not exceeding a rise of 1:12 (one inch vertical per 12 inches horizontal	Accessibility	ABA compliance
Red	Does not meet AMBER column minimum conditions	Accessibility	ABA compliance
ISR-I Component	ISR-I Sub Component	ISR-I Priority	

Sites and Grounds	Turf and Pavement Drainage	Medium	
ISR-I Rating	ISR-I Criteria	BUILDER Category	BUILDER Sub Issue
Green	Surfaces are sloped to drain	Drainage	
Amber	Surfaces are not sloped to drain	Drainage	
Red	Surfaces are not draining	Drainage	
ISR-I Component	ISR-I Sub Component	ISR-I Priority	
Sites and Grounds	Paved Sidewalks	Medium	
ISR-I Rating	ISR-I Criteria	BUILDER Category	BUILDER Sub Issue
Green	Installed from parking lot to facility	Access	Building Entry
Green	Installed from adjacent streets to facility	Access	Building Entry
Green	At least 4 feet wide	Access	Building Entry
Amber	Not installed from parking to facility	Access	Building Entry
Amber	Not installed from streets to facility	Access	Building Entry
Amber	Less than 4 feet wide	Access	Building Entry
Red	Not installed at all	Access	Building Entry
ISR-I Component	ISR-I Sub Component	ISR-I Priority	
Sites and Grounds	Dumpster	Low	
ISR-I Rating	ISR-I Criteria	BUILDER Category	BUILDER Sub Issue
Green	Screened by walls or landscaping high enough (6-8 feet) to restrict view from; building occupants, entrances, streets, parking lots	Aesthetics	Interior Aesthetics
Green	33 feet or more away from other occupied facilities	Aesthetics	Interior Aesthetics
Green	82 feet or more away from billeting or housing	Aesthetics	Interior Aesthetics
Amber	Not screened by walls or landscaping sufficiently high to obscure view	Aesthetics	Interior Aesthetics
Amber	More than 20 feet away, but less than 33 feet away from other occupied facilities	Aesthetics	Interior Aesthetics
Amber	More than 50 feet away, but less than 82 feet away, from billeting or housing	Aesthetics	Interior Aesthetics
Red	Not enclosed or screened from view	Aesthetics	Interior Aesthetics
Red	Less than 20 feet away from other occupied facilities	Aesthetics	Interior Aesthetics
Red	Less than 50 feet away from billeting or housing	Aesthetics	Interior Aesthetics
ISR-I Component	ISR-I Sub Component	ISR-I Priority	

Sites and Grounds	Utility Services	Low	
ISR-I Rating	ISR-I Criteria	BUILDER Category	BUILDER Sub Issue
Green	Utility equipment is screened by landscaping or fencing	Aesthetics	Interior Aesthetics
Amber	Utility equipment is screened by landscaping or fencing	Aesthetics	Interior Aesthetics
ISR-I Component	ISR-I Sub Component	ISR-I Priority	
Parking	Disabled Parking	High	
ISR-I Rating	ISR-I Criteria	BUILDER Category	BUILDER Sub Issue
Green	1-25 parking spaces – min req accessbile space 1	Accessibility	ABA compliance
Green	26-50 parking spaces – min req accessible spaces 2	Accessibility	ABA compliance
Green	51-75 parking spaces – min req accessible spaces 3	Accessibility	ABA compliance
Green	76-100 parking spaces – min req accessible spaces 4	Accessibility	ABA compliance
Green	101-150 parking spaces – min req accessible spaces 5	Accessibility	ABA compliance
Green	151-200 parking spaces – min req accessible spaces 6	Accessibility	ABA compliance
Green	201-300 parking spaces – min req accessible spaces 7	Accessibility	ABA compliance
Green	301-400 parking spaces – min req accessible spaces 8	Accessibility	ABA compliance
Green	401-500 parking spaces – min req accessible spaces 9	Accessibility	ABA compliance
Green	501-1000 parking spaces – min req accessible spaces 2% of total	Accessibility	ABA compliance
Green	1001 and over parking spaces – 20 plus 1 for each 100	Accessibility	ABA compliance
Green	For facilities mainly occupied by able-bodied military personnel; The standard does not have to be met, but spaces should be provided for disabled personnel and visitors	Accessibility	ABA compliance
Green	Accessible parking spaces are at least 8 feet wide and have 5 additional feet for exiting the car	Accessibility	ABA compliance
Green	Disabled parking is the shortest possible route to an accessible entrance	Accessibility	ABA compliance
Green	Accessible spaces are designated with signs	Accessibility	ABA compliance
Green	Curb ramps are available wherever an accessible route crosses a curb at a rise or 1:12 or less	Accessibility	ABA compliance
Green	Ramps available from disabled parking, as needed with maximum rise of 1:12	Accessibility	ABA compliance

Amber	Meets 1 of the first 2 criteria in the Green category	Accessibility	ABA compliance
Amber	Accessible parking spaces are at least 8 feet wide and have 5 additional feet for exiting the car, and	Accessibility	ABA compliance
Amber	Meets 2 or 3 of the elements outlined in the Green column	Accessibility	ABA compliance
Red	Neither of the first 2 criteria in the Green category met	Accessibility	ABA compliance
Red	Accessible parking space are less than 8 feet wide or do not have 5 additional feet for exiting the car	Accessibility	ABA compliance
Red	Meets 1 or none of the elements outlined in the Green category	Accessibility	ABA compliance
ISR-I Component	ISR-I Sub Component	ISR-I Priority	
Parking	Parking Availability	High	
ISR-I Rating	ISR-I Criteria	BUILDER Category	BUILDER Sub Issue
Green	Parking Spaces are available on the installation for all personnel and visitors	Access	Building Entry
Amber	Parking Spaces are available on the installation for 75%-99% of personnel and visitors	Access	Building Entry
Red	Parking spaces are available on the installation for less than 75% of personnel and visitors	Access	Building Entry
ISR-I Component	ISR-I Sub Component	ISR-I Priority	
Parking	Parking Area Standoff	High	
ISR-I Rating	ISR-I Criteria	BUILDER Category	BUILDER Sub Issue
Green	Parking spaces are located 82 feet or more away from occupied facilities	Access	Building Entry
Green	Within controlled perimeters, parking spaces are located 33 feet or more away from occupied facilities	Access	Building Entry
Red	Parking spaces are located less than 82 feet away from occupied facilities	Access	Building Entry
Red	Within controlled perimeters, parking spaces are located less than 33 feet from occupied facilities	Access	Building Entry
ISR-I Component	ISR-I Sub Component	ISR-I Priority	
Parking	Parking Area Lighting	High	
ISR-I Rating	ISR-I Criteria	BUILDER Category	BUILDER Sub Issue
Green	Provides direct or area light for Traffic flow during low visibility	Access	Building Entry
Green	Provides direct or area light for Pedestrian movement	Access	Building Entry
Green	Provides direct or area light for Signage	Access	Building Entry

Amber	Not more than 1 of the 3 types of lighting in the Green category is missing	Access	Building Entry
Red	More than 1 of the 3 types of lighting in the Green category is missing	Access	Building Entry
Red	Parking areas are not illuminated	Access	Building Entry
ISR-I Component	ISR-I Sub Component	ISR-I Priority	
Parking	Parking Pavement Drainage	High	
ISR-I Rating	ISR-I Criteria	BUILDER Category	BUILDER Sub Issue
Green	Sloped to drain	Drainage	
Amber	Not well sloped to drain	Drainage	
Red	Not draining	Drainage	
ISR-I Component	ISR-I Sub Component	ISR-I Priority	
Parking	Parking Spaces	Medium	
ISR-I Rating	ISR-I Criteria	BUILDER Category	BUILDER Sub Issue
Green	Sized 8.5 ft wide by 16-18 feet long		
Red	Less than 8.5 wide by 16-18 feet long		
ISR-I Component	ISR-I Sub Component	ISR-I Priority	
Parking	Parking Signage	Low	
ISR-I Rating	ISR-I Criteria	BUILDER Category	BUILDER Sub Issue
Green	Signs provide directions from parking areas along walkways to the facility	Access	Directional Info and Signage
Amber	Signs providing directions from parking areas along walkways to the facility are not current or are illegible	Access	Directional Info and Signage
Red	No signs from parking to the facility	Access	Directional Info and Signage
ISR-I Component	ISR-I Sub Component	ISR-I Priority	
Building Exterior - General	Outside Drainage	High	
ISR-I Rating	ISR-I Criteria	BUILDER Category	BUILDER Sub Issue
Green	Outflow drains away from the building	Drainage	
Amber	Outflow ponds at the building base around splash blocks	Drainage	
Red	Outflow ponds at building base; no splash blocks	Drainage	
ISR-I Component	ISR-I Sub Component	ISR-I Priority	
Building Exterior - General	Exterior Lighting	High	

ISR-I Rating	ISR-I Criteria	BUILDER Category	BUILDER Sub Issue
Green	Provides direct or area lighting for:	Access	Building Entry
Green	Security	Access	Building Entry
Green	Pedestrian movement	Access	Building Entry
Green	Safety and exit routes	Access	Building Entry
Green	General exterior	Access	Building Entry
Amber	Not more than 1 of the 4 types of lighting in the Green column is missing	Access	Building Entry
ISR-I Component	ISR-I Sub Component	ISR-I Priority	
Building Exterior - General	Disabled Access	High	
ISR-I Rating	ISR-I Criteria	BUILDER Category	BUILDER Sub Issue
Green	At least 1 main entry door allows disabled access to each public or work space within the building	Accessibility	ABA compliance
Green	At entries with doors in series, clearances for the disabled are 48 inches clear of any door swing	Accessibility	ABA compliance
Green	Next to any revolving door there is (at a minimum) a single leaf door for the disabled	Accessibility	ABA compliance
Green	A service entry is not the sole disabled accessible entry, unless it is the only entry	Accessibility	ABA compliance
Green	Accessible exit door connects to bus stops, disabled parking/loading zones, and public streets by an accessible route	Accessibility	ABA compliance
Amber	3 or more of the 5 conditions in the Green column are met	Accessibility	ABA compliance
Red	Less than 3 of the 5 conditions in the Green column are met, or	Accessibility	ABA compliance
Red	Building is inaccessible to the disabled	Accessibility	ABA compliance
ISR-I Component	ISR-I Sub Component	ISR-I Priority	
Building Exterior - General	Building Exterior Signage	Medium	
ISR-I Rating	ISR-I Criteria	BUILDER Category	BUILDER Sub Issue
Green	ADAAG/UFAS compliant	Access	Directional Info and Signage
Green	Coordinated, clearly visible, and readable	Access	Directional Info and Signage
Green	Includes directions to parking, entrances, and facilities	Access	Directional Info and Signage
Green	Information is current	Access	Directional Info and Signage

Amber	ADAAG/UFAS compliant	Access	Directional Info and Signage
Amber	Not well coordinated, but readable	Access	Directional Info and Signage
Amber	Missing directories to parking, entrances, or facilities	Access	Directional Info and Signage
Red	Does not meet AMBER column minimum conditions	Access	Directional Info and Signage
ISR-I Component	ISR-I Sub Component	ISR-I Priority	
Building Exterior - General	Mechanical Equipment	Low	
ISR-I Rating	ISR-I Criteria	BUILDER Category	BUILDER Sub Issue
Green	Screened and painted to match building design	Aesthetics	Exterior Aesthetics
Amber	Unscreened, but painted to match building color	Aesthetics	Exterior Aesthetics
Red	Unscreened and not painted to match building color	Aesthetics	Exterior Aesthetics
ISR-I Component	ISR-I Sub Component	ISR-I Priority	
Loading Dock / Service Area	Dock Boards & Station Lifts	High	
ISR-I Rating	ISR-I Criteria	BUILDER Category	BUILDER Sub Issue
Green	Loading dock is sized to meet mission requirements	Missing/Im-proper Comps	Missing Components?
Green	If required, station lifts are available and working	Missing/Im-proper Comps	Missing Components?
Amber	Loading dock exists, but is not sized to meet mission needs	Missing/Im-proper Comps	Missing Components?
Amber	If required, station lifts are present, but not working	Missing/Im-proper Comps	Missing Components?
Red	No loading dock exists, although one is required	Missing/Im-proper Comps	Missing Components?
Red	Station lifts, if required, are not available	Missing/Im-proper Comps	Missing Components?
ISR-I Component	ISR-I Sub Component	ISR-I Priority	
Loading Dock / Service Area	Lighting & Outlets	High	
ISR-I Rating	ISR-I Criteria	BUILDER Category	BUILDER Sub Issue
Green	Lighting covers more than 90% of the loading dock and truck spotting area	Comfort	Building Lighting

Green	Waterproof, Ground Fault Interrupt (GFI) rated electrical outlets are available on the loading dock and in the truck spotting area	Building Services	Electrical Outlets
Amber	Lighting covers 75%-90% of the loading dock and truck spotting area	Comfort	Building Lighting
Amber	Some outlets on the loading dock and within the truck area are not waterproof or GFI rated	Building Services	Electrical Outlets
Red	Lighting covers less than 75% of the loading dock and truck spotting area	Comfort	Building Lighting
Red	No waterproof or GFI rated outlets available for the loading dock and truck spotting areas	Building Services	Electrical Outlets
ISR-I Component	ISR-I Sub Component	ISR-I Priority	
Loading Dock / Service Area	Truck Area	High	
ISR-I Rating	ISR-I Criteria	BUILDER Category	BUILDER Sub Issue
Green	Trucks have easy and safe access to loading area and dock	Access	Directional Info and Signage
Green	Bollards (posts) protect dock and fixed equipment in the truck area and show only minor wear and tear	Missing/Im-proper Comps	Missing Components?
Green	Area drains well; no debris buildup at drains	Drainage	
Amber	Truck access is safe, but has some space restrictions	Access	Directional Info and Signage
Amber	Bollards are not protecting the dock and fixed equipment in the truck area	Missing/Im-proper Comps	Missing Components?
Amber	Area does not drain well; signs of standing water and debris buildup	Drainage	
Red	Unsafe truck access to service area and dock space	Access	Directional Info and Signage
Red	Bollards need replacement or are missing	Missing/Im-proper Comps	Missing Components?
Red	Extensive puddles of standing water and large debris buildup at drains	Drainage	
ISR-I Component	ISR-I Sub Component	ISR-I Priority	
Loading Dock / Service Area	Service Doors	Medium	
ISR-I Rating	ISR-I Criteria	BUILDER Category	BUILDER Sub Issue
Green	Service and personnel doors are large enough for easy access	Access	Directional Info and Signage
Amber	Service and personnel doors provide limited access	Access	Directional Info and Signage
Red	Service and personnel doors provide inadequate access	Access	Directional Info and Signage
ISR-I Component	ISR-I Sub Component	ISR-I Priority	

Loading Dock / Service Area	Dock Walls	Low	
ISR-I Rating	ISR-I Criteria	BUILDER Category	BUILDER Sub Issue
Green	Bollards (posts) protect dock walls, corners and doorways from Material Handling Equipment (MHE)	Missing/Improper Comps	Missing Components?
Amber	Bollards are in place, but do not protect dock walls, corners, and/or doorways	Missing/Improper Comps	Missing Components?
Red	Bollards need to be replaced or are missing	Missing/Improper Comps	Missing Components?
ISR-I Component	ISR-I Sub Component	ISR-I Priority	
Corridors	Corridor Transit Area	High	
ISR-I Rating	ISR-I Criteria	BUILDER Category	BUILDER Sub Issue
Green	Minimum of 4 feet wide	Size/Configuration	Building Configuration
Green	Fire extinguishers in secure boxes	Size/Configuration	Building Configuration
Amber	Corridors meet 2 of the 3 bulleted elements	Size/Configuration	Building Configuration
Red	Less than 2 of the bulleted elements in the Green column are met	Size/Configuration	Building Configuration
ISR-I Component	ISR-I Sub Component	ISR-I Priority	
Corridors	Lighting & Outlets	High	
ISR-I Rating	ISR-I Criteria	BUILDER Category	BUILDER Sub Issue
Green	At least one electrical duplex (three prong grounded) outlet on all wall surfaces	Building Services	Electrical Outlets
Amber	One or more walls lack grounded duplex outlets	Building Services	Electrical Outlets
Red	No grounded duplex outlets in Lobby, or	Building Services	Electrical Outlets
ISR-I Component	ISR-I Sub Component	ISR-I Priority	
Corridors	Corridor Doors	Medium	
ISR-I Rating	ISR-I Criteria	BUILDER Category	BUILDER Sub Issue
Green	Allow access by the disabled to public or work spaces in the facility	Accessibility	ABA compliance
Green	Interior doors that are also fire/exit doors, and normally in an open position, are equipped with automatic closure devices and panic hardware	Missing/Improper Comps	Missing Components?
Green	Interior doors that exit to the exterior are metal or solid core wood and open easily from the inside	Access	Building Egress
Green	Panic hardware does not require a key or special tools to open from inside.	Missing/Improper Comps	Missing Components?

Red	Does not allow access by the disabled to public or work spaces in the facility	Accessibility	ABA compliance
Red	Interior doors that are also fire/exit doors, and normally in an open position, are not equipped with automatic closure devices and/or panic hardware	Missing/Improper Comps	Missing Components?
Red	Interior doors that exit to the exterior are not metal or solid core wood or do not open easily from the inside	Access	Building Egress
Red	Panic hardware requires a key or special tools to open from inside	Missing/Improper Comps	Missing Components?
ISR-I Component	ISR-I Sub Component	ISR-I Priority	
Stairs	Stair Doors	High	
ISR-I Rating	ISR-I Criteria	BUILDER Category	BUILDER Sub Issue
Green	Panic hardware does not require key or special tools to operate from inside	Missing/Improper Comps	Missing Components?
Red	Panic hardware requires key or special tools to operate from inside	Missing/Improper Comps	Missing Components?
ISR-I Component	ISR-I Sub Component	ISR-I Priority	
Stairs	Lighting and Outlets	High	
ISR-I Rating	ISR-I Criteria	BUILDER Category	BUILDER Sub Issue
Green	If required, there is at least one GFI outlet at each floor landing	Building Services	Electrical Outlets
Amber	If required, there is at least one GFI outlet at each floor landing	Building Services	Electrical Outlets
Red	Although required, there is no outlet at each floor landing	Building Services	Electrical Outlets
ISR-I Component	ISR-I Sub Component	ISR-I Priority	
Administrative Areas	Work Area	High	
ISR-I Rating	ISR-I Criteria	BUILDER Category	BUILDER Sub Issue
Green	Flexible layout; space meets mission needs	Size/Configuration	Building Configuration
Green	Sufficient storage space, close to work stations, meets mission needs	Size/Configuration	Building Configuration
Amber	Space restricts aisle and workstation layout	Size/Configuration	Building Configuration
Amber	Marginal storage space, not close to workstations, but meets mission needs	Size/Configuration	Building Configuration
Red	Workstation layout does not meet needs	Size/Configuration	Building Configuration
Red	Little to no storage space; hinders effective operations	Size/Configuration	Building Configuration

ISR-I Component	ISR-I Sub Component	ISR-I Priority	
Administrative Areas	Lighting and Outlets	High	
ISR-I Rating	ISR-I Criteria	BUILDER Category	BUILDER Sub Issue
Green	At least one electrical duplex (three prong grounded) outlet at all workstations	Building Services	Electrical Outlets
Green	Besides workstations, there is at least one electrical duplex outlet on all interior walls of the area	Building Services	Electrical Outlets
Amber	One or more walls lack grounded duplex outlets	Building Services	Electrical Outlets
Amber	Besides workstations, there is at least one electrical duplex outlet on 1 wall of the area	Building Services	Electrical Outlets
Red	No grounded duplex outlets at workstations	Building Services	Electrical Outlets
Red	No additional electrical outlets other than those at workstations	Building Services	Electrical Outlets
ISR-I Component	ISR-I Sub Component	ISR-I Priority	
Administrative Areas	Interior Doors	Medium	
ISR-I Rating	ISR-I Criteria	BUILDER Category	BUILDER Sub Issue
Red	Do not allow access by the disabled to public or work spaces in the facility	Accessibility	ABA compliance
Red	Doors that exit to the exterior are not equipped with fire/exit signs and panic hardware	Missing/Improper Comps	Missing Components?
ISR-I Component	ISR-I Sub Component	ISR-I Priority	
Administrative Areas	Computer/LAN system	Medium	
ISR-I Rating	ISR-I Criteria	BUILDER Category	BUILDER Sub Issue
Green	Enough LAN outlets are available to support current mission requirements	Building Services	Building IT System
Amber	Not enough LAN outlets are available	Building Services	Building IT System
Red	If required, LAN outlets are not available	Building Services	Building IT System
ISR-I Component	ISR-I Sub Component	ISR-I Priority	
Administrative Areas	Telephone System	Medium	
ISR-I Rating	ISR-I Criteria	BUILDER Category	BUILDER Sub Issue
Green	Enough telephone jacks are available to support current mission requirements	Building Services	Telephone System

Amber	Not enough telephone jacks are available	Building Services	Telephone System
Red	If required telephone jacks are not available	Building Services	Telephone System
ISR-I Component	ISR-I Sub Component	ISR-I Priority	
Toilets/Showers/Locker Rooms	Toilets/Sinks Availability	High	
ISR-I Rating	ISR-I Criteria	BUILDER Category	BUILDER Sub Issue
Green	Number of stalls, urinals, and sinks satisfy population served	Building Services	Plumbing Fixtures
Amber	Number of stalls, urinals, and sinks support population served	Building Services	Plumbing Fixtures
Red	Number of stalls, urinals, and sinks do not support population served	Building Services	Plumbing Fixtures
ISR-I Component	ISR-I Sub Component	ISR-I Priority	
Toilets/Showers/Locker Rooms	Disabled Access	High	
ISR-I Rating	ISR-I Criteria	BUILDER Category	BUILDER Sub Issue
Green	At least one stall is 56x60 inches with grasp bars and a 48 inch wide clear approach	Accessibility	ABA compliance
Green	At least one sink is mounted no higher than 34 inches off floor, with 27 inches of clear space under sink, and 48 inches clearance to back out	Accessibility	ABA compliance
Amber	Stall clearances will not allow person in wheel chair to roll in and close the stall door	Accessibility	ABA compliance
Amber	Clearances to maneuver are less than required	Accessibility	ABA compliance
Red	No accessibility for the disabled	Accessibility	ABA compliance
ISR-I Component	ISR-I Sub Component	ISR-I Priority	
Toilets/Showers/Locker Rooms	Lighting and Outlets	High	
ISR-I Rating	ISR-I Criteria	BUILDER Category	BUILDER Sub Issue
Green	All outlets grounded/GFI rated available where water may be present	Building Services	Electrical Outlets
Amber	All outlets grounded/GFI rated available where water may be present	Building Services	Electrical Outlets
ISR-I Component	ISR-I Sub Component	ISR-I Priority	

Toilets/Showers/Locker Rooms	Locker/Shower	Medium	
ISR-I Rating	ISR-I Criteria	BUILDER Category	BUILDER Sub Issue
Green	Enough individual lockers and showers for the population served	Size/Configuration	Building Configuration
Green	Lockers and showers are co-located	Size/Configuration	Building Configuration
Green	Females have individual showers and dressing cubicles	Size/Configuration	Building Configuration
Amber	Lockers and showers are insufficient for the population	Size/Configuration	Building Configuration
Amber	Lockers/Showers are not co-located	Size/Configuration	Building Configuration
Amber	Females have individual showers but not dressing cubicles	Size/Configuration	Building Configuration
Red	No locker room or showers available	Size/Configuration	Building Configuration

ISR-I Component	ISR-I Sub Component	ISR-I Priority
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Toilets/Showers/Locker Rooms	Bathroom Accessories	Low	
ISR-I Rating	ISR-I Criteria	BUILDER Category	BUILDER Sub Issue
Green	Dispensers for hand soap, towels, toilet paper, disposal containers for hygiene products, etc., are present and easily accessible	Missing/Improper Comps	Missing Components?
Amber	Accessories are available, but difficult to access	Missing/Improper Comps	Missing Components?
Red	Accessories are not available	Missing/Improper Comps	Missing Components?

ISR-I Component	ISR-I Sub Component	ISR-I Priority
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Maintenance Areas	Hazardous Material Storage	High	
ISR-I Rating	ISR-I Criteria	BUILDER Category	BUILDER Sub Issue
Green	Hazardous materials storage area adequate and in good condition	Size/Configuration	Building Configuration
Green	Safe storage of HM is ensured	Size/Configuration	Building Configuration
Amber	HM storage area requires minor improvements to ensure safe storage	Size/Configuration	Building Configuration
Red	HM storage area required but not available or requires major renovation to ensure safe storage	Size/Configuration	Building Configuration

ISR-I Component	ISR-I Sub Component	ISR-I Priority
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Maintenance Areas	Hazardous Waste Storage Holding	High	
ISR-I Rating	ISR-I Criteria	BUILDER Category	BUILDER Sub Issue
Green	Hazardous wastes holding facility adequate and in good condition	Size/Configuration	Building Configuration
Green	Safe storage of Hazardous Waste ensured	Size/Configuration	Building Configuration
Amber	Hazardous Waste holding facility requires minor improvements to ensure safe storage	Size/Configuration	Building Configuration
Red	Hazardous Waste holding facility required but not available or requires major renovation to ensure safe storage	Size/Configuration	Building Configuration
ISR-I Component	ISR-I Sub Component	ISR-I Priority	
Maintenance Areas	Lightning Rods	High	
ISR-I Rating	ISR-I Criteria	BUILDER Category	BUILDER Sub Issue
Green	Building lightning rods and grounding cables good condition and properly anchored to building and ground	Environment/Life Safety	Lightning Protection
Amber	Building lightning rods and/or grounding cables require repair or upgrading	Environment/Life Safety	Lightning Protection
Red	Building lightning rods and/or grounding cables required but not installed or not functional	Environment/Life Safety	Lightning Protection
ISR-I Component	ISR-I Sub Component	ISR-I Priority	
Maintenance Areas	Lighting and Outlets	High	
ISR-I Rating	ISR-I Criteria	BUILDER Category	BUILDER Sub Issue
Green	All outlets grounded/GFI rated available where water may be present	Building Services	Electrical Outlets
Amber	All outlets grounded/GFI rated available where water may be present	Building Services	Electrical Outlets
Red	Ungrounded outlets or outlets where water may be present are not GFI rated	Building Services	Electrical Outlets
ISR-I Component	ISR-I Sub Component	ISR-I Priority	
Maintenance Areas	Vehicle Entrance	High	
ISR-I Rating	ISR-I Criteria	BUILDER Category	BUILDER Sub Issue
Green	Approaches to building's vehicle entrances provide sufficient maneuvering surface for authorized vehicles requiring entrance	Access	Building Entry
Green	Maneuvering surface is paved and in good condition	Access	Building Entry

Amber	Approaches to building's vehicle entrances constricted by non-permanent obstacles	Access	Building Entry
Amber	Ground guides required and/or drivers must use unpaved areas to align vehicles with entrance	Access	Building Entry
Red	Approaches to building's vehicle entrances constricted by permanent obstacles, e.g., curbs, buildings, utility poles, drainage ditches, and/or insufficient paved surfaces	Access	Building Entry
ISR-I Component	ISR-I Sub Component	ISR-I Priority	
Maintenance Areas	Interior Space Clearance	High	
ISR-I Rating	ISR-I Criteria	BUILDER Category	BUILDER Sub Issue
Green	Building's interior provides adequate clearance for equipment/weapon systems to maneuver/test while in the facility (e.g., turrets can be rotated, gun tubes can be elevated, etc.)	Size/Configuration	Occupant Interaction
Green	Building interior clearance allows all test procedures to be performed	Size/Configuration	Occupant Interaction
Amber	Building's interior is large enough for equipment/weapon systems to enter but prevents up to 25% of test procedures from being conducted	Size/Configuration	Occupant Interaction
Red	Building's interior is large enough for equipment/weapon systems to enter but prevents more than 25% of test procedures from being conducted	Size/Configuration	Occupant Interaction
ISR-I Component	ISR-I Sub Component	ISR-I Priority	
Maintenance Areas	Vehicle Entrance	High	
ISR-I Rating	ISR-I Criteria	BUILDER Category	BUILDER Sub Issue
Green	Vehicle entrances provide adequate clearances for all vehicles, as required by facility mission, with no modifications or delays to standard procedures	Access	Building Entry
Amber	Facility has waiver with restrictions	Access	Building Entry
Red	Floors cannot hold weight of industrial plant equipment and vehicle/weapon system being driven/parked on it without being severely damaged	Access	Building Entry
Red	No waivers authorized	Access	Building Entry
ISR-I Component	ISR-I Sub Component	ISR-I Priority	
Maintenance Areas	Vehicle Lift Equipment	High	
ISR-I Rating	ISR-I Criteria	BUILDER Category	BUILDER Sub Issue
Green	Installed vehicle lift equipment adequate and in good condition to meet all facility missions	Missing/Improper Comps	Missing Components?

Amber	Lift equipment adequate to meet 75% of facility missions	Missing/Im-proper Comps	Missing Components?
Red	Lift equipment not adequate to meet at least 75% of facility missions	Missing/Im-proper Comps	Missing Components?
ISR-I Component	ISR-I Sub Component	ISR-I Priority	
Maintenance Areas	Crane	High	
ISR-I Rating	ISR-I Criteria	BUILDER Category	BUILDER Sub Issue
Green	Cranes/hoists adequate and in good condition to meet all facility missions	Missing/Im-proper Comps	Missing Components?
Amber	Cranes/hoists can lift 75% of loads required for facility missions	Missing/Im-proper Comps	Missing Components?
Red	Crane rails cannot support required loads	Missing/Im-proper Comps	Missing Components?
ISR-I Component	ISR-I Sub Component	ISR-I Priority	
Maintenance Areas	Bay Pits	High	
ISR-I Rating	ISR-I Criteria	BUILDER Category	BUILDER Sub Issue
Green	Bay Pits meet all needs for facility missions	Missing/Im-proper Comps	Missing Components?
Amber	Bay Pits meet most needs for facility missions	Missing/Im-proper Comps	Missing Components?
Red	Bay pits do not meet the needs for facility missions	Missing/Im-proper Comps	Missing Components?
ISR-I Component	ISR-I Sub Component	ISR-I Priority	
Maintenance Areas	Secure Area Availability	High	
ISR-I Rating	ISR-I Criteria	BUILDER Category	BUILDER Sub Issue
Green	Secure area available for performing communication security (COMSEC), intelligence and electronic warfare (IEW)	Building Services	Security System
Amber	Secure area security features require upgrading	Building Services	Security System
Red	Secure area not available for performing communication security (COMSEC), intelligence and electronic warfare (IEW), signals intelligence (SIGINT), and/or small arms maintenance	Building Services	Security System
ISR-I Component	ISR-I Sub Component	ISR-I Priority	
Maintenance Areas	Computer/LAN System	High	
ISR-I Rating	ISR-I Criteria	BUILDER Category	BUILDER Sub Issue

Green	Enough LAN outlets are available to support current mission requirements	Building Services	Building IT System
Amber	Not enough LAN outlets are available	Building Services	Building IT System
Red	If required, LAN outlets are not available	Building Services	Building IT System
ISR-I Component	ISR-I Sub Component	ISR-I Priority	
Maintenance Areas	Telephone System	High	
ISR-I Rating	ISR-I Criteria	BUILDER Category	BUILDER Sub Issue
Green	Enough telephone jacks are available to support current mission requirements	Building Services	Telephone System
Amber	Not enough telephone jacks are available	Building Services	Telephone System
Red	If required, LAN outlets are not available	Building Services	Telephone System
ISR-I Component	ISR-I Sub Component	ISR-I Priority	
Maintenance Areas	Battery Shop	High	
ISR-I Rating	ISR-I Criteria	BUILDER Category	BUILDER Sub Issue
Green	Battery shop complies with OSHA, Federal and State standards	Size/Configuration	Building Configuration
Green	Shop has automatic neutralization capability and built-in power distribution panels	Size/Configuration	Building Configuration
Green	Floor is acid resistant; drain connected to collection tank	Size/Configuration	Building Configuration
Amber	Facility has waiver with restrictions	Size/Configuration	Building Configuration
Amber	Battery shop approved but requires manual acid neutralization	Size/Configuration	Building Configuration
Amber	Lacks floor drainage, and/or power distribution	Size/Configuration	Building Configuration
Red	No OSHA certified battery shop	Size/Configuration	Building Configuration
Red	Battery shop does not comply with Federal and State Standards	Size/Configuration	Building Configuration
ISR-I Component	ISR-I Sub Component	ISR-I Priority	
Maintenance Areas	Drainage	Medium	
ISR-I Rating	ISR-I Criteria	BUILDER Category	BUILDER Sub Issue
Green	Floor slopes towards drains	Drainage	
Amber	Drain pipes not large enough, resulting in slow drainage	Drainage	

Red	Drains not connected to waste water collection or treatment system	Drainage	
ISR-I Component	ISR-I Sub Component	ISR-I Priority	
Maintenance Areas	Water Availability	Medium	
ISR-I Rating	ISR-I Criteria	BUILDER Category	BUILDER Sub Issue
Green	Water lines available in required locations	Building Services	Water Supply
Amber	Water lines available 75% of required locations	Building Services	Water Supply
Red	Water lines not available at required locations	Building Services	Water Supply
ISR-I Component	ISR-I Sub Component	ISR-I Priority	
Centralized Vehicle Wash Facility	Pits/Lifts	High	
ISR-I Rating	ISR-I Criteria	BUILDER Category	BUILDER Sub Issue
Green	Pits and lifts meet all needs for facility missions	Missing/Im-proper Comps	Missing Components?
Amber	Pits and lifts meet most needs for facility missions	Missing/Im-proper Comps	Missing Components?
Red	Pits and lifts do not meet the needs for facility missions	Missing/Im-proper Comps	Missing Components?
ISR-I Component	ISR-I Sub Component	ISR-I Priority	
Centralized Vehicle Wash Facility	Drainage/Containment	High	
ISR-I Rating	ISR-I Criteria	BUILDER Category	BUILDER Sub Issue
Green	Dike sufficient to contain and prevent runoff from leaking into surrounding areas	Drainage	
Amber	Dikes insufficient to contain and prevent runoff from leaking into surrounding areas	Drainage	
Red	Dikes cracked and leaking into surrounding areas	Drainage	
ISR-I Component	ISR-I Sub Component	ISR-I Priority	
Centralized Vehicle Wash Facility	Area/Bay Space	High	
ISR-I Rating	ISR-I Criteria	BUILDER Category	BUILDER Sub Issue
Green	Area/Bays are sufficiently heated as required	Size/Configuration	Building Configuration
Red	Wash bays have inadequate space	Size/Configuration	Building Configuration

ISR-I Component	ISR-I Sub Component	ISR-I Priority		
Centralized Vehicle Wash Facility	Heating	High		
ISR-I Rating	ISR-I Criteria	BUILDER Category	BUILDER Sub Issue	
Green	Area/Bays are sufficiently heated as required	Comfort	HVAC Heating Capacity	
Amber	Wash bay heating system damaged or insufficient	Comfort	HVAC Heating Capacity	
Red	required waste water-oil separator not installed	Comfort	HVAC Heating Capacity	
ISR-I Component	ISR-I Sub Component	ISR-I Priority		
Centralized Vehicle Wash Facility	Wastewater	High		
ISR-I Rating	ISR-I Criteria	BUILDER Category	BUILDER Sub Issue	
Green	Waste water is treated at the proper treatment plant	Drainage		
Amber	Waste water collection system not fully meeting facility needs	Drainage		
Red	Waste water collection system not available	Drainage		
ISR-I Component	ISR-I Sub Component	ISR-I Priority		
Centralized Vehicle Wash Facility	Overspray Screens	Medium		
ISR-I Rating	ISR-I Criteria	BUILDER Category	BUILDER Sub Issue	
Green	Overspray screens installed as appropriate	Missing/Im-proper Comps	Missing Components?	
Amber	Overspray screens installed between 75% of the bays	Missing/Im-proper Comps	Missing Components?	
Red	No overspray screens installed	Missing/Im-proper Comps	Missing Components?	
ISR-I Component	ISR-I Sub Component	ISR-I Priority		
Centralized Vehicle Wash Facility	Walls	Medium		
ISR-I Rating	ISR-I Criteria	BUILDER Category	BUILDER Sub Issue	
Green	Walls composed of durable material (concrete, wood, drywall, etc.)	Structural Adequacy	Loading Conditions	
Red	Walls NOT composed of durable material	Structural Adequacy	Loading Conditions	

ISR-I Component	ISR-I Sub Component	ISR-I Priority	
Centralized Vehicle Wash Facility	Lighting and Outlets	Low	
ISR-I Rating	ISR-I Criteria	BUILDER Category	BUILDER Sub Issue
Green	All outlets grounded/GFI rated available where water may be present	Building Services	Electrical Outlets
Amber	All outlets grounded/GFI rated available where water may be present	Building Services	Electrical Outlets
Red	Ungrounded outlets or outlets where water may be present are not GFI rated	Building Services	Electrical Outlets

Appendix M: Army ISR-I mapping to BUILDER Functionality Criteria, Unit Operation Building

ISR-I Component	ISR-I Sub Component	ISR-I Priority	
Sites and Grounds	Site and Grounds Lighting	High	
ISR-I Rating	ISR-I Criteria	BUILDER Category	BUILDER Sub Issue
Green	Pedestrian movement	Access	Building Entry
Green	Security	Access	Building Entry
Green	Signage	Access	Building Entry
Green	Landscape	Access	Building Entry
Red	Two or more of the 4 types of lighting in the Green Column are missing	Access	Building Entry
Red	No site and ground lighting exists	Access	Building Entry
ISR-I Component	ISR-I Sub Component	ISR-I Priority	
Sites and Grounds	Disabled Access	High	
ISR-I Rating	ISR-I Criteria	BUILDER Category	BUILDER Sub Issue
Green	Curb ramps are present wherever accessible routes cross a curb	Accessibility	ABA compliance
Green	Ramps are a minimum of 3 feet wide	Accessibility	ABA compliance
Green	Ramps have a moderate slope, not exceeding a rise of 1:12 inches horizontally	Accessibility	ABA compliance
Green	Access across the site follows the shortest accessible route to the facility	Accessibility	ABA compliance
Amber	1 or 2 of the 4 types of lighting in the Green column missing	Accessibility	ABA compliance
Red	More than 2 of the accessible criteria elements in the Green column are missing	Accessibility	ABA compliance
ISR-I Component	ISR-I Sub Component	ISR-I Priority	
Sites and Grounds	Turf and Pavement Drainage	High	
ISR-I Rating	ISR-I Criteria	BUILDER Category	BUILDER Sub Issue
Green	No access the site that follows the shortest accessible to the facility	Drainage	
ISR-I Component	ISR-I Sub Component	ISR-I Priority	
Sites and Grounds	Paved Sidewalks	Medium	
ISR-I Rating	ISR-I Criteria	BUILDER Category	BUILDER Sub Issue
Green	Installed from parking to facility	Access	Building Entry
Green	Installed from adjacent streets to facility	Access	Building Entry

Green	At least 4 feet wide	Access	Building Entry
Amber	Not installed from parking to facility	Access	Building Entry
Amber	Not installed from streets to facility	Access	Building Entry
Amber	Less than 4 feet wide	Access	Building Entry
Red	Not installed at all	Access	Building Entry
ISR-I Component	ISR-I Sub Component	ISR-I Priority	
Sites and Grounds	Landscaping	Medium	
ISR-I Rating	ISR-I Criteria	BUILDER Category	BUILDER Sub Issue
Green	Displays a mixture of colorful plants and greenery appropriate to the area	Aesthetics	Exterior Aesthetics
Amber	Displays few color plantings or greenery	Aesthetics	Exterior Aesthetics
Red	No plantings	Aesthetics	Exterior Aesthetics
ISR-I Component	ISR-I Sub Component	ISR-I Priority	
Sites and Grounds	Dumpster	Low	
ISR-I Rating	ISR-I Criteria	BUILDER Category	BUILDER Sub Issue
Green	Screened by walls or landscaping to obstruct view from Building occupants	Aesthetics	Exterior Aesthetics
Green	Screened by walls or landscaping to obstruct view from Entrances	Aesthetics	Exterior Aesthetics
Green	Screened by walls or landscaping to obstruct view from Streets	Aesthetics	Exterior Aesthetics
Green	Screened by walls or landscaping to obstruct view from Parking Lots	Aesthetics	Exterior Aesthetics
Green	33 feet or more away from other occupied buildings	Aesthetics	Exterior Aesthetics
Green	82 feet or more away from billeting or housing	Aesthetics	Exterior Aesthetics
Amber	Not screened by walls or landscaping sufficiently high to obscure view	Aesthetics	Exterior Aesthetics
Amber	More than 20 feet away, but less than 33 feet away from other occupied facilities	Aesthetics	Exterior Aesthetics
Amber	More than 50 feet away, but less than 82 feet away from billeting or housing	Aesthetics	Exterior Aesthetics
Red	Not enclosed or screened from view	Aesthetics	Exterior Aesthetics
Red	Less than 20 feet away from other occupied facilities	Aesthetics	Exterior Aesthetics
Red	Less than 50 feet away from billeting or housing	Aesthetics	Exterior Aesthetics
ISR-I Component	ISR-I Sub Component	ISR-I Priority	
Parking	Disabled Parking	High	
ISR-I Rating	ISR-I Criteria	BUILDER Category	BUILDER Sub Issue
Green	One of every 25 parking spaces is designated for the disabled	Accessibility	ABA compliance

Green	For facilities mainly occupied by able-bodied military personnel:	Accessibility	ABA compliance
Green	The 1:25 standard does not have to be met, but spaces should be provided for disabled personnel and visitors to facility	Accessibility	ABA compliance
Green	Accessible parking spaces are at least 8 feet wide and have 5 additional feet for exiting the car	Accessibility	ABA compliance
Green	Disabled parking is near the shortest possible route to an accessible entrance	Accessibility	ABA compliance
Green	Accessible spaces are designated with signs	Accessibility	ABA compliance
Green	Curb ramps are available wherever an accessible route crosses a curb at a rise of 1:12 or less	Accessibility	ABA compliance
Green	Ramps are available for disabled parking, as needed, with maximum rise of 1:12	Accessibility	ABA compliance
Amber	Meets 1 of the first two criteria in the Green column, depending on facility use	Accessibility	ABA compliance
Amber	Accessible parking spaces are at least 8 feet wide and have 5 additional feet for exiting the car	Accessibility	ABA compliance
Amber	Meets 2 or 3 of the elements outlined in the Green column	Accessibility	ABA compliance
Red	Neither of the first 2 criteria in the Green column is met	Accessibility	ABA compliance
Red	Accessible parking spaces are at less than 8 feet wide or do not have 5 additional feet for exiting the car	Accessibility	ABA compliance
Red	Meets 1 or none of the elements outlined in the Green Column	Accessibility	ABA compliance
ISR-I Component	ISR-I Sub Component	ISR-I Priority	
Parking	Parking Availability	High	
ISR-I Rating	ISR-I Criteria	BUILDER Category	BUILDER Sub Issue
Green	Parking spaces are available on the installation for all personnel and visitors	Access	Building Entry
Amber	Parking spaces are available on the installation for 75%-99% of personnel and visitors	Access	Building Entry
Red	Parking spaces are available on the installation for less than 75% of personnel and visitors	Access	Building Entry
ISR-I Component	ISR-I Sub Component	ISR-I Priority	
Parking	Parking Area Standoff	High	
ISR-I Rating	ISR-I Criteria	BUILDER Category	BUILDER Sub Issue
Green	Parking spaces are located 82 feet or more away from occupied facilities	Access	Building Entry

Green	Within controlled perimeters, parking spaces are located 33 feet or more away from occupied facilities	Access	Building Entry
Red	Parking spaces are located less than 82 feet away from occupied facilities	Access	Building Entry
Red	Within controlled perimeters, parking spaces are located less than 33 feet from occupied facilities	Access	Building Entry
ISR-I Component		ISR-I Sub Component	
Parking		Parking Area Lighting	
		High	
ISR-I Rating		ISR-I Criteria	
Green	Traffic flow during low visibility	Access	Building Entry
Green	Pedestrian movement	Access	Building Entry
Green	Signage	Access	Building Entry
Amber	Not more than 1 of the 3 types of lighting in the Green column is missing	Access	Building Entry
Red	More than 1 of the 3 types of lighting in the Green column is missing	Access	Building Entry
ISR-I Component		ISR-I Sub Component	
Parking		Parking Pavement Drainage	
		High	
ISR-I Rating		ISR-I Criteria	
Green	Sloped to drain	Drainage	
Amber	Not well sloped to drain	Drainage	
Red	Not draining	Drainage	
ISR-I Component		ISR-I Sub Component	
Parking		Parking Spaces	
		Medium	
ISR-I Rating		ISR-I Criteria	
Green	Spaces marked on pavement	Aesthetics	Exterior Aesthetics
Green	Sized 8.5 feet wide by 16-18 feet long	Aesthetics	Exterior Aesthetics
Amber	Spaces marked on pavement, but re-stripping is needed	Aesthetics	Exterior Aesthetics
Red	Spaces not identified	Aesthetics	Exterior Aesthetics
Red	Less than 8.5 wide by 16-18 long	Aesthetics	Exterior Aesthetics
ISR-I Component		ISR-I Sub Component	
Parking		Parking Landscaping	
		Low	
ISR-I Rating		ISR-I Criteria	
Green	Displays a mixture of colorful plants and greenery appropriate to the area	Aesthetics	Exterior Aesthetics
Amber	Displays few plantings of color and greenery	Aesthetics	Exterior Aesthetics
Red	No plantings	Aesthetics	Exterior Aesthetics
ISR-I Component		ISR-I Sub Component	
		ISR-I Priority	

Parking	Parking Signage	Low	
ISR-I Rating	ISR-I Criteria	BUILDER Category	BUILDER Sub Issue
Green	Lot(s) and rows have identity signs and traffic control signs, all clearly legible	Access	Directional Info and Signage
Green	Signs provide directions from parking areas along walkways to the facility	Access	Directional Info and Signage
Amber	Limited traffic control and lot/row identity signs; signs hard to read from vehicles	Access	Directional Info and Signage
Amber	Signs providing directions from parking areas along walkways to the facility are not current or are illegible	Access	Directional Info and Signage
Red	No traffic control signs, or no lot and row markings	Access	Directional Info and Signage
Red	No signs from parking to the facility	Access	Directional Info and Signage
ISR-I Component	ISR-I Sub Component	ISR-I Priority	
Building Exterior General	Exterior Lighting	High	
ISR-I Rating	ISR-I Criteria	BUILDER Category	BUILDER Sub Issue
Green	Security	Access	Building Entry
Green	Pedestrian movement	Access	Building Entry
Green	Safety and exit routes	Access	Building Entry
Green	General Exterior	Access	Building Entry
Amber	Not more than 1 of the 4 types of lighting in the Green Column is missing	Access	Building Entry
Red	Two or more of the 4 types of lighting in the Green Column are missing	Access	Building Entry
Red	There is no exterior area lighting	Access	Building Entry
ISR-I Component	ISR-I Sub Component	ISR-I Priority	
Building Exterior General	Disabled Access	High	
ISR-I Rating	ISR-I Criteria	BUILDER Category	BUILDER Sub Issue
Green	At least 1 main entry door allows disabled access to each public or work space area within the building	Accessibility	ABA compliance
Green	At entries with doors in series, clearances for the disabled are 48 inches clear of any door swing	Accessibility	ABA compliance
Green	Next to any revolving door there is a single leaf door for the disabled	Accessibility	ABA compliance
Green	A service entry is not the sole disabled accessible entry, unless it is the only entry	Accessibility	ABA compliance
Green	Accessible exit door connects to bus stops, disabled parking/loading zones, and public streets by an accessible route	Accessibility	ABA compliance

Amber	3 or more of the 5 conditions in the Green column are met	Accessibility	ABA compliance
Red	Less than 3 of the 5 conditions in the Green column are met	Accessibility	ABA compliance
Red	Building is inaccessible to the disabled	Accessibility	ABA compliance
ISR-I Component	ISR-I Sub Component	ISR-I Priority	
Building Exterior General	Building Exterior Signage	Medium	
ISR-I Rating	ISR-I Criteria	BUILDER Category	BUILDER Sub Issue
Green	Includes directions to parking, entrances, and facilities	Access	Directional Info and Signage
Amber	Not well coordinated but readable	Access	Directional Info and Signage
Amber	Missing directories to parking, entrances, or facilities	Access	Directional Info and Signage
Red	Directions not available	Access	Directional Info and Signage
ISR-I Component	ISR-I Sub Component	ISR-I Priority	
Loading Dock / Service Area	Lighting & Outlets	High	
ISR-I Rating	ISR-I Criteria	BUILDER Category	BUILDER Sub Issue
Green	Waterproof, Ground Fault Interrupt (GFI) rated electrical outlets are available on the loading dock and in the truck spotting area	Building Services	Electrical Outlets
Amber	Some outlets on the loading dock and within the truck area are not waterproof or GFI rated	Building Services	Electrical Outlets
Red	No waterproof or GFI rated outlets available for the loading dock and truck spotting areas	Building Services	Electrical Outlets
ISR-I Component	ISR-I Sub Component	ISR-I Priority	
Loading Dock / Service Area	Dock Boards and Station Lifts	High	
ISR-I Rating	ISR-I Criteria	BUILDER Category	BUILDER Sub Issue
Green	Loading dock is sized to meet mission requirements	Size/Configuration	Building Configuration
Amber	Loading dock exists, but it is not sized to meet mission needs	Size/Configuration	Building Configuration
Red	No loading dock exists, although one is required	Size/Configuration	Building Configuration
ISR-I Component	ISR-I Sub Component	ISR-I Priority	
Loading Dock / Service Area	Truck Area	High	
ISR-I Rating	ISR-I Criteria	BUILDER Category	BUILDER Sub Issue

Green	Trucks have easy and safe access to loading area and dock	Size/Configuration	Building Configuration
Amber	Truck access is safe, but has some space restrictions	Size/Configuration	Building Configuration
Red	Unsafe truck access to service area and dock space	Size/Configuration	Building Configuration
ISR-I Component	ISR-I Sub Component	ISR-I Priority	
Loading Dock / Service Area	Service Doors	Medium	
ISR-I Rating	ISR-I Criteria	BUILDER Category	BUILDER Sub Issue
Green	Service and personnel doors are large enough for easy access	Access	Building Entry
Amber	Service and personnel doors provide limited access	Access	Building Entry
Red	Service and personnel doors provide inadequate access	Access	Building Entry
ISR-I Component	ISR-I Sub Component	ISR-I Priority	
Lobby	Lobby Area	High	
ISR-I Rating	ISR-I Criteria	BUILDER Category	BUILDER Sub Issue
Green	Space layout meets mission needs	Size/Configuration	Building Configuration
Amber	Space layout restricts movement in lobby or restricts mission needs	Size/Configuration	Building Configuration
Red	Space layout is inadequate to fulfill mission needs	Size/Configuration	Building Configuration
ISR-I Component	ISR-I Sub Component	ISR-I Priority	
Lobby	Lighting & Outlets	High	
ISR-I Rating	ISR-I Criteria	BUILDER Category	BUILDER Sub Issue
Green	At least one electrical duplex outlet (three prong grounded) on all wall surfaces	Building Services	Electrical Outlets
Amber	One or more walls lack grounded duplex outlets	Building Services	Electrical Outlets
Red	No grounded duplex outlets in lobby	Building Services	Electrical Outlets
ISR-I Component	ISR-I Sub Component	ISR-I Priority	
Lobby	Interior Doors	Medium	
ISR-I Rating	ISR-I Criteria	BUILDER Category	BUILDER Sub Issue
Green	Allow access by the disabled to public or work spaces in the facility	Accessibility	ABA compliance
Green	Interior doors that are also fire/exit doors, and normally in an open position, are equipped with automatic closure devices and panic hardware	Missing/Improper Comps	Missing Components?

Green	Panic hardware does not require a key or special tools to open from inside	Missing/Improper Comps	Missing Components?
Red	Do not allow access by the disabled to public or work spaces in the facility	Accessibility	ABA compliance
Red	Interior doors that are also fire/exit doors, and normally in an open position, are not equipped with automatic closure devices and/or panic hardware	Missing/Improper Comps	Missing Components?
Red	Panic hardware requires a key or special tools to open from inside	Missing/Improper Comps	Missing Components?
ISR-I Component	ISR-I Sub Component	ISR-I Priority	
Lobby	Telephone System	Medium	
ISR-I Rating	ISR-I Criteria	BUILDER Category	BUILDER Sub Issue
Green	Enough telephone jacks are available to support current mission requirements	Building Services	Telephone System
Amber	Not enough telephone jacks are available	Building Services	Telephone System
Red	If required, telephone jacks are not available	Building Services	Telephone System
ISR-I Component	ISR-I Sub Component	ISR-I Priority	
Lobby	Computer LAN System	Medium	
ISR-I Rating	ISR-I Criteria	BUILDER Category	BUILDER Sub Issue
Green	Enough LAN outlets are available to support mission requirements	Building Services	Building IT System
Amber	Not enough LAN outlets are available	Building Services	Building IT System
Red	If required, LAN outlets are not available	Building Services	Building IT System
ISR-I Component	ISR-I Sub Component	ISR-I Priority	
Lobby	Signage	Low	
ISR-I Rating	ISR-I Criteria	BUILDER Category	BUILDER Sub Issue
Green	Present and current; includes a building directory	Access	Directional Info and Signage
Amber	Present, but not current; does not include a building directory	Access	Directional Info and Signage
Red	No present	Access	Directional Info and Signage
ISR-I Component	ISR-I Sub Component	ISR-I Priority	
Corridors	Corridor Transit Area	High	
ISR-I Rating	ISR-I Criteria	BUILDER Category	BUILDER Sub Issue
Green	Minimum of 4 feet wide	Size/Configuration	Building Configuration

Green	Fire extinguishers in secure boxes	Missing/Improper Comps	Missing Components?
Amber	Corridors meet 2 of the 3 bulleted elements	Missing/Improper Comps	Missing Components?
Red	Less than 2 of the bulleted elements in the Green column are met	Missing/Improper Comps	Missing Components?
ISR-I Component	ISR-I Sub Component	ISR-I Priority	
Corridors	Lighting & Outlets	High	
ISR-I Rating	ISR-I Criteria	BUILDER Category	BUILDER Sub Issue
Green	At least one electrical duplex (three prong grounded) outlet on all wall surfaces	Building Services	Electrical Outlets
Amber	One or more walls lack grounded duplex outlets	Building Services	Electrical Outlets
Red	No grounded duplex outlets in Lobby, or	Building Services	Electrical Outlets
ISR-I Component	ISR-I Sub Component	ISR-I Priority	
Corridors	Corridor Doors	Medium	
ISR-I Rating	ISR-I Criteria	BUILDER Category	BUILDER Sub Issue
Green	Allow access by the disabled to public or work spaces in the facility	Accessibility	ABA compliance
Green	Interior doors that are also fire/exit doors, and normally in an open position, are equipped with automatic closure devices and panic hardware	Missing/Improper Comps	Missing Components?
Green	Interior doors that exit to the exterior are metal or solid core wood and open easily from the inside	Access	Building Entry
Green	Panic hardware does not require a key or special tools to open from inside.	Missing/Improper Comps	Missing Components?
Red	Does not allow access by the disabled to public or work spaces in the facility	Accessibility	ABA compliance
Red	Interior doors that are also fire/exit doors, and normally in an open position, are not equipped with automatic closure devices and/or panic hardware	Missing/Improper Comps	Missing Components?
Red	Interior doors that exit to the exterior are not metal or solid core wood or do not open easily from the inside	Access	Building Entry
Red	Panic hardware requires a key or special tools to open from inside	Missing/Improper Comps	Missing Components?
ISR-I Component	ISR-I Sub Component	ISR-I Priority	
Stairs	Stair Doors	High	

ISR-I Rating	ISR-I Criteria	BUILDER Category	BUILDER Sub Issue
Green	Panic hardware does not require key or special tools to operate from inside	Missing/Improper Comps	Missing Components?
Red	Panic hardware requires key or special tools to operate from inside	Missing/Improper Comps	Missing Components?
ISR-I Component	ISR-I Sub Component	ISR-I Priority	
Stairs	Lighting and Outlets	High	
ISR-I Rating	ISR-I Criteria	BUILDER Category	BUILDER Sub Issue
Green	If required, there is at least one GFI outlet at each floor landing	Building Services	Electrical Outlets
Amber	If required, there is at least one GFI outlet at each floor landing	Building Services	Electrical Outlets
Red	Although required, there is no outlet at each floor landing	Building Services	Electrical Outlets
ISR-I Component	ISR-I Sub Component	ISR-I Priority	
Elevators	Safety Standards	High	
ISR-I Rating	ISR-I Criteria	BUILDER Category	BUILDER Sub Issue
Green	Firefighter key control available	Missing/Improper Comps	Missing Components?
Green	Controls and signals work and accommodate the disabled	Accessibility	ABA compliance
ISR-I Component	ISR-I Sub Component	ISR-I Priority	
Elevators	Capacity	High	
ISR-I Rating	ISR-I Criteria	BUILDER Category	BUILDER Sub Issue
Green	Number and size of elevators support population served	Size/Configuration	Building Configuration
Amber	Number and size of elevators support 75% of population served	Size/Configuration	Building Configuration
Red	Number and size of elevators support less than 75% of population served	Size/Configuration	Building Configuration
ISR-I Component	ISR-I Sub Component	ISR-I Priority	
Escalators	Safety Standards	High	
ISR-I Rating	ISR-I Criteria	BUILDER Category	BUILDER Sub Issue
Green	Width is minimum of 32 inches	Size/Configuration	Building Configuration
Red	Escalators conform to only 1 of the safety standards in the Green column	Size/Configuration	Building Configuration
ISR-I Component	ISR-I Sub Component	ISR-I Priority	
Escalators	Signage	Low	

ISR-I Rating	ISR-I Criteria	BUILDER Category	BUILDER Sub Issue
Green	Well placed for easy location of escalators	Access	Directional Info and Signage
Green	Highly visible and readable	Access	Directional Info and Signage
Amber	Signage is available, but not well placed	Access	Directional Info and Signage
Amber	Hard to read	Access	Directional Info and Signage
Red	Not in place	Access	Directional Info and Signage
ISR-I Component	ISR-I Sub Component	ISR-I Priority	
Administrative Areas	Work Area	High	
ISR-I Rating	ISR-I Criteria	BUILDER Category	BUILDER Sub Issue
Green	Flexible layout; space meets mission needs	Size/Configuration	Building Configuration
Green	Sufficient storage space, close to work stations, meets mission needs	Size/Configuration	Building Configuration
Amber	Space restricts aisle and workstation layout	Size/Configuration	Building Configuration
Amber	Marginal storage space, not close to workstations, but meets mission needs	Size/Configuration	Building Configuration
Red	Workstation layout does not meet needs	Size/Configuration	Building Configuration
Red	Little to no storage space; hinders effective operations	Size/Configuration	Building Configuration
ISR-I Component	ISR-I Sub Component	ISR-I Priority	
Administrative Areas	Lighting and Outlets	High	
ISR-I Rating	ISR-I Criteria	BUILDER Category	BUILDER Sub Issue
Green	At least one electrical duplex (three prong grounded) outlet at all workstations	Building Services	Electrical Outlets
Green	Besides workstations, there is at least one electrical duplex outlet on all interior walls of the area	Building Services	Electrical Outlets
Amber	One or more walls lack grounded duplex outlets	Building Services	Electrical Outlets
Amber	Besides workstations, there is at least one electrical duplex outlet on 1 wall of the area	Building Services	Electrical Outlets
Red	No grounded duplex outlets at workstations	Building Services	Electrical Outlets
Red	No additional electrical outlets other than those at workstations	Building Services	Electrical Outlets
ISR-I Component	ISR-I Sub Component	ISR-I Priority	

Administrative Areas	Computer/LAN system	High	
ISR-I Rating	ISR-I Criteria	BUILDER Category	BUILDER Sub Issue
Green	Enough LAN outlets are available to support current mission requirements	Building Services	Building IT System
Amber	Not enough LAN outlets are available	Building Services	Building IT System
Red	If required, LAN outlets are not available	Building Services	Building IT System
ISR-I Component	ISR-I Sub Component	ISR-I Priority	
Administrative Areas	Telephone System	High	
ISR-I Rating	ISR-I Criteria	BUILDER Category	BUILDER Sub Issue
Green	Enough telephone jacks are available to support current mission requirements	Building Services	Telephone System
Amber	Not enough telephone jacks are available	Building Services	Telephone System
Red	If required telephone jacks are not available	Building Services	Telephone System
ISR-I Component	ISR-I Sub Component	ISR-I Priority	
Administrative Areas	Interior Doors	Medium	
ISR-I Rating	ISR-I Criteria	BUILDER Category	BUILDER Sub Issue
Red	Do not allow access by the disabled to public or work spaces in the facility	Accessibility	ABA compliance
Red	Doors that exit to the exterior are not equipped with fire/exit signs and panic hardware	Accessibility	ABA compliance
ISR-I Component	ISR-I Sub Component	ISR-I Priority	
Bathrooms	Ventilation	High	
ISR-I Rating	ISR-I Criteria	BUILDER Category	BUILDER Sub Issue
Green	Ventilation integrated into forced air system	Comfort	Ventilation Capacity
Amber	Fans provided, but not integrated into forced air system	Comfort	Ventilation Capacity
Red	Poor or no ventilation	Comfort	Ventilation Capacity
ISR-I Component	ISR-I Sub Component	ISR-I Priority	
Bathrooms	Toilets/Sinks Availability	High	
ISR-I Rating	ISR-I Criteria	BUILDER Category	BUILDER Sub Issue
Green	Number of stalls, urinals, and sinks satisfy population served	Building Services	Plumbing Fixtures

Amber	Number of stalls, urinals, and sinks support population served	Building Services	Plumbing Fixtures
Red	Number of stalls, urinals, and sinks do not support population served	Building Services	Plumbing Fixtures
ISR-I Component	ISR-I Sub Component	ISR-I Priority	
Bathrooms	Disabled Access	High	
ISR-I Rating	ISR-I Criteria	BUILDER Category	BUILDER Sub Issue
Green	At least one stall is 56x60 inches, with grab bars and a 48-inch-wide clear approach	Accessibility	ABA compliance
Green	At least one sink is mounted no higher than 34 inches off floor, with 27 inches of clear space under sink, and 48 inches clearance to back out	Accessibility	ABA compliance
Amber	Stall clearances will not allow person in wheel chair to roll in and close the stall door	Accessibility	ABA compliance
Amber	Clearances to maneuver are less than required	Accessibility	ABA compliance
Red	No accessibility for the disabled	Accessibility	ABA compliance
ISR-I Component	ISR-I Sub Component	ISR-I Priority	
Bathrooms	Lighting and Outlets	High	
ISR-I Rating	ISR-I Criteria	BUILDER Category	BUILDER Sub Issue
Green	All outlets grounded/GFI rated available where water may be present	Building Services	Electrical Outlets
Amber	All outlets grounded/GFI rated available where water may be present	Building Services	Electrical Outlets
Red	Underground outlets or outlets where water may be present are not GFI rated	Building Services	Electrical Outlets
ISR-I Component	ISR-I Sub Component	ISR-I Priority	
Bathrooms	Lockers/Showers	Medium	
ISR-I Rating	ISR-I Criteria	BUILDER Category	BUILDER Sub Issue
Green	Enough individual lockers and showers for the population served	Size/Configuration	Building Configuration
Green	Lockers and showers are co-located	Size/Configuration	Building Configuration
Green	Females have individual showers and dressing cubicles	Size/Configuration	Building Configuration
Amber	Lockers and showers are insufficient for the population	Size/Configuration	Building Configuration
Amber	Lockers/Showers are not co-located	Size/Configuration	Building Configuration
Amber	Females have individual showers, but not dressing cubicles	Size/Configuration	Building Configuration

Red	No locker room or showers available	Size/Configuration	Building Configuration
ISR-I Component	ISR-I Sub Component	ISR-I Priority	
Bathrooms	Bathroom Accessories	Low	
ISR-I Rating	ISR-I Criteria	BUILDER Category	BUILDER Sub Issue
Green	Dispensers for hand soap, towels, toilet paper, disposal containers for hygiene products, etc., are present and easily accessible	Missing/Improper Comps	Missing Components?
Amber	Accessories are available, but difficult to access	Missing/Improper Comps	Missing Components?
Red	Accessories are not available	Missing/Improper Comps	Missing Components?
ISR-I Component	ISR-I Sub Component	ISR-I Priority	
Arms Room	Arms Room Security	High	
ISR-I Rating	ISR-I Criteria	BUILDER Category	BUILDER Sub Issue
Green	Intrusion Detection System (IDS)	Building Services	Security System
Green	Has independent uninterrupted power supply of at least four hours	Building Services	Uninterruptible Power Supply
Green	Connected to a central reporting location	Building Services	Security System
Green	Meets requirements for certified arms rooms security. Arms vault certification available, has been executed within the last five years	Building Services	Security System
Green	Class V door with day gate (day gate not required for ARNG)	Building Services	Security System
Green	Working 24x7 light at the arms vault door	Building Services	Security System
Amber	Class V vault door, but no day gate (day gate not required for ARNG)	Building Services	Security System
Red	No IDS; weapons storage requires 24 hour guard	Building Services	Security System
Red	No class V vault door	Building Services	Security System
Red	No security light over arms vault door	Building Services	Security System
ISR-I Component	ISR-I Sub Component	ISR-I Priority	
Arms Room	Lighting and Outlets	High	
ISR-I Rating	ISR-I Criteria	BUILDER Category	BUILDER Sub Issue
Green	At least one electrical duplex (three prong grounded) outlet on all walls	Building Services	Electrical Outlets

Green	Arms Room light switches are inside the arms room	Building Services	Electrical Outlets
Amber	One or more walls do not have grounded duplex outlets	Building Services	Electrical Outlets
Red	No grounded outlets in arms area	Building Services	Electrical Outlets
Red	Arms Room light switches are not inside the arms room	Building Services	Electrical Outlets
ISR-I Component	ISR-I Sub Component	ISR-I Priority	
Arms Room	Ventilation	High	
ISR-I Rating	ISR-I Criteria	BUILDER Category	BUILDER Sub Issue
Green	Integrated into the forced air system	Comfort	Ventilation Capacity
Green	Dehumidifier present, if required	Comfort	Dehumidification
Amber	Fans, but not part of forced air system	Comfort	Ventilation Capacity
Red	Poor or no ventilation	Comfort	Ventilation Capacity
Red	No dehumidifier, if required	Comfort	Dehumidification
ISR-I Component	ISR-I Sub Component	ISR-I Priority	
Arms Room	Arms Room Work Area	Medium	
ISR-I Rating	ISR-I Criteria	BUILDER Category	BUILDER Sub Issue
Green	Separate caged/vault area for assigned units	Size/Configuration	Building Configuration
Green	Adjacent/adequately sized area for weapons maintenance	Size/Configuration	Building Configuration
Green	Fire extinguisher, with inspection tag present	Size/Configuration	Building Configuration
Amber	Not enough caged/vault areas for units	Size/Configuration	Building Configuration
Amber	Inadequately sized area for weapons maintenance	Size/Configuration	Building Configuration
Red	No separate cages/vaults, a single cage/vault only	Size/Configuration	Building Configuration
Red	No provisions for weapons maintenance in vicinity or arms room	Size/Configuration	Building Configuration
ISR-I Component	ISR-I Sub Component	ISR-I Priority	
Arms Room	Weapons Storage	Medium	
ISR-I Rating	ISR-I Criteria	BUILDER Category	BUILDER Sub Issue
Green	Adequate weapons storage	Size/Configuration	Building Configuration
Green	Racking arranged to provide easy access for quick distribution	Size/Configuration	Building Configuration
Red	No storage, or inadequate storage for units assigned weapons	Size/Configuration	Building Configuration

Red	No racks present for weapons, or not enough racks for weapons. Individual and/or crew served weapons not racked properly; some on tables or floors due to lack of specialty racks	Size/Configuration	Building Configuration
ISR-I Component	ISR-I Sub Component	ISR-I Priority	
Arms Room	Ceilings	Medium	
ISR-I Rating	ISR-I Criteria	BUILDER Category	BUILDER Sub Issue
Green	Reinforced concrete	Structural Adequacy	Loading Conditions
Red	Ceiling is not reinforced concrete	Structural Adequacy	Loading Conditions
ISR-I Component	ISR-I Sub Component	ISR-I Priority	
Arms Room	Floors	Medium	
ISR-I Rating	ISR-I Criteria	BUILDER Category	BUILDER Sub Issue
Green	Reinforced concrete	Structural Adequacy	Loading Conditions
Red	Flooring is not reinforced concrete	Structural Adequacy	Loading Conditions
ISR-I Component	ISR-I Sub Component	ISR-I Priority	
Arms Room	Walls	Medium	
ISR-I Rating	ISR-I Criteria	BUILDER Category	BUILDER Sub Issue
Green	Are reinforced with concrete or concrete block walls with rebar and concrete filled cavities	Structural Adequacy	Loading Conditions
Green	Arms room wall conduits are externally mounted; painted/covered to match wall	Aesthetics	Interior Aesthetics
Green	Conduits in weapons maintenance area walls are concealed within the walls	Aesthetics	Interior Aesthetics
Amber	Conduits in weapons maintenance walls are exposed; painted/covered to match wall	Aesthetics	Interior Aesthetics
Red	Walls are not concrete or reinforced concrete block	Structural Adequacy	Loading Conditions
Red	Arms room wall conduits are exposed, do not match wall color	Aesthetics	Interior Aesthetics
Red	Weapons maintenance area wall conduits are exposed, do not match wall color	Aesthetics	Interior Aesthetics
ISR-I Component	ISR-I Sub Component	ISR-I Priority	
Arms Room	Windows and Other Openings	Medium	
ISR-I Rating	ISR-I Criteria	BUILDER Category	BUILDER Sub Issue
Green	Windows, if present, are sealed with materials comparable to that forming the adjacent walls	Aesthetics	Interior Aesthetics

Green	Vents, ducts and other openings of 96 square inches or more will be equipped with steel bars or steel mesh so that openings do not exceed 32 square inches	Missing/Im-proper Comps	Missing Components?
Red	Windows are not sealed to match the requirements outlined in the Green column	Aesthetics	Interior Aesthetics
Red	Vents, ducts and other openings are not secured as outlined in the Green column	Missing/Im-proper Comps	Missing Components?
ISR-I Component	ISR-I Sub Component	ISR-I Priority	
Arms Room	Doors	Medium	
ISR-I Rating	ISR-I Criteria	BUILDER Category	BUILDER Sub Issue
Green	Non-Vault doors have lever handles and kick plates	Missing/Im-proper Comps	Missing Components?
Green	Weapons maintenance area doors that exit directly to the exterior are equipped with fire exit signs and panic hardware	Missing/Im-proper Comps	Missing Components?
Amber	Non-Vault doors do not have lever handle and kick plates	Missing/Im-proper Comps	Missing Components?
Red	Weapons maintenance area doors that exit directly to the exterior are not equipped with fire exit signs and panic hardware	Missing/Im-proper Comps	Missing Components?
ISR-I Component	ISR-I Sub Component	ISR-I Priority	
Arms Room	Computer/LAN System	Medium	
ISR-I Rating	ISR-I Criteria	BUILDER Category	BUILDER Sub Issue
Green	Enough LAN outlets to support mission	Building Services	Building IT System
Amber	Not enough LAN outlets are available	Building Services	Building IT System
Red	Additional LAN outlets are not available	Building Services	Building IT System
ISR-I Component	ISR-I Sub Component	ISR-I Priority	
Arms Room	Telephone	Medium	
ISR-I Rating	ISR-I Criteria	BUILDER Category	BUILDER Sub Issue
Green	At least one telephone jack in arms room	Building Services	Telephone System
Amber	Not enough telephone jacks are available	Building Services	Telephone System
Red	Additional jacks are not available	Building Services	Telephone System
ISR-I Component	ISR-I Sub Component	ISR-I Priority	
Arms Room	Signage	Low	

ISR-I Rating	ISR-I Criteria	BUILDER Category	BUILDER Sub Issue
Green	Coordinated for safety and movement	Access	Directional Info and Signage
Amber	Minimal and not clearly visible, hindering safety and movement	Access	Directional Info and Signage
Red	Not current or no signage	Access	Directional Info and Signage
ISR-I Component	ISR-I Sub Component	ISR-I Priority	
Classroom	Space Layout	High	
ISR-I Rating	ISR-I Criteria	BUILDER Category	BUILDER Sub Issue
Green	Flexible layout, space meets mission requirements	Size/Configuration	Building Configuration
Green	Sufficient storage space meets mission needs	Size/Configuration	Building Configuration
Amber	Space restricts operations	Size/Configuration	Building Configuration
Amber	Marginal storage space, but meets mission needs	Size/Configuration	Building Configuration
Red	Layout does not meet mission needs	Size/Configuration	Building Configuration
Red	Little to no storage space; hinders effective operations	Size/Configuration	Building Configuration
ISR-I Component	ISR-I Sub Component	ISR-I Priority	
Classroom	Audio Visual (A/V)	High	
ISR-I Rating	ISR-I Criteria	BUILDER Category	BUILDER Sub Issue
Green	Space fully accommodates current A/V equipment/aids	Size/Configuration	Building Configuration
Green	No obstruction to view A/V is evident	Size/Configuration	Building Configuration
Green	Specific lighting and window coverage to present an environment for ease of viewing	Comfort	Building Lighting
Amber	Space provides limited ability to accommodate current A/V equipment/aids	Size/Configuration	Building Configuration
Amber	Obstruction prevents observation of visual aids for some personnel	Size/Configuration	Building Configuration
Amber	Lighting and window coverage limits creation of dark environment for viewing	Comfort	Building Lighting
Red	Space does not accommodate A/V equipment/aids	Size/Configuration	Building Configuration
Red	Obstructions are overly disruptive for observation of visual aids	Size/Configuration	Building Configuration
Red	No capability to darken the room to aid in viewing	Comfort	Building Lighting

ISR-I Component	ISR-I Sub Component	ISR-I Priority	
Classroom	Lighting and Outlets	High	
ISR-I Rating	ISR-I Criteria	BUILDER Category	BUILDER Sub Issue
Green	At least one electrical duplex (three prong grounded) outlet at all stations	Building Services	Electrical Outlets
Green	Besides workstations, there is at least 1 electrical duplex outlet on all interior walls	Building Services	Electrical Outlets
Amber	One or more workstations lack grounded duplex outlets	Building Services	Electrical Outlets
Amber	Besides workstations, there is at least one electrical duplex outlet on 1 wall of area	Building Services	Electrical Outlets
Red	No grounded outlets at workstations	Building Services	Electrical Outlets
Red	No additional electrical outlets other than those at workstations	Building Services	Electrical Outlets
ISR-I Component	ISR-I Sub Component	ISR-I Priority	
Classroom	Computer/LAN System	Medium	
ISR-I Rating	ISR-I Criteria	BUILDER Category	BUILDER Sub Issue
Green	Enough LAN outlets are available to support current mission requirements	Building Services	Building IT System
Amber	Not enough LAN outlets are available	Building Services	Building IT System
Red	If required, LAN outlets are not available	Building Services	Building IT System
ISR-I Component	ISR-I Sub Component	ISR-I Priority	
Conference Room	Space Layout	High	
ISR-I Rating	ISR-I Criteria	BUILDER Category	BUILDER Sub Issue
Green	Flexible layout, space meets mission requirements	Size/Configuration	Building Configuration
Green	Sufficient storage space meets mission needs	Size/Configuration	Building Configuration
Amber	Space restricts layout	Size/Configuration	Building Configuration
Amber	Marginal storage space, but meets mission needs	Size/Configuration	Building Configuration
Red	Layout does not meet needs	Size/Configuration	Building Configuration
Red	Little to no storage space; hinders effective operations	Size/Configuration	Building Configuration
ISR-I Component	ISR-I Sub Component	ISR-I Priority	
Conference Room	Telephone System	High	
ISR-I Rating	ISR-I Criteria	BUILDER Category	BUILDER Sub Issue
Green	Enough telephone jacks are available to support current mission requirements	Building Services	Telephone System

Amber	Not enough telephone jacks are available	Building Services	Telephone System
Red	If required telephone jacks are not available	Building Services	Telephone System
ISR-I Component	ISR-I Sub Component	ISR-I Priority	
Conference Room	Variable Lighting	High	
ISR-I Rating	ISR-I Criteria	BUILDER Category	BUILDER Sub Issue
Green	Variable lighting is in place	Comfort	Building Lighting
Green	Provides bright lighting in key areas to include sitting areas and writing surfaces	Comfort	Building Lighting
Green	Lighting has capability to segment room for use of projector or other audio visual	Comfort	Building Lighting
Amber	Provides limited lighting to key areas	Comfort	Building Lighting
Amber	Lighting has limited capacity to segment the room for use of projector or other A/V	Comfort	Building Lighting
Red	No variable lighting in the room	Comfort	Building Lighting
Red	Variable lighting is inoperative	Comfort	Building Lighting
Red	Unable to adjust appropriately to meet the needs of users	Comfort	Building Lighting
ISR-I Component	ISR-I Sub Component	ISR-I Priority	
Conference Room	Audio Visual (A/V)	High	
ISR-I Rating	ISR-I Criteria	BUILDER Category	BUILDER Sub Issue
Green	Space fully accommodates current A/V equipment/aids	Size/Configuration	Building Configuration
Green	No obstruction to view A/V is evident	Size/Configuration	Building Configuration
Green	Specific lighting and window coverage to present an environment for ease of viewing	Comfort	Building Lighting
Amber	Space provides limited ability to accommodate current A/V equipment/aids	Size/Configuration	Building Configuration
Amber	Obstruction prevents observation of visual aids for some personnel	Size/Configuration	Building Configuration
Amber	Lighting and window coverage limits creation of dark environment for viewing	Comfort	Building Lighting
Red	Space does not accommodate A/V equipment/aids	Size/Configuration	Building Configuration
Red	Obstructions are overly disruptive for observation of visual aids	Size/Configuration	Building Configuration
Red	No capability to darken the room to aid in viewing	Comfort	Building Lighting
ISR-I Component	ISR-I Sub Component	ISR-I Priority	
Conference Room	Security	High	
ISR-I Rating	ISR-I Criteria	BUILDER Category	BUILDER Sub Issue

Green	The room can be secured for confidential or classified briefings in accordance with appropriate security classification guide	Building Services	Security System
Amber	Room can be used for confidential meetings, but is not secure for classified briefings in accordance with appropriate security classification guide	Building Services	Security System
Red	Room cannot be secured for confidential or classified briefings in accordance with appropriate security classification guide	Building Services	Security System
ISR-I Component	ISR-I Sub Component	ISR-I Priority	
Conference Room	Computer/LAN System	Medium	
ISR-I Rating	ISR-I Criteria	BUILDER Category	BUILDER Sub Issue
Green	Enough LAN outlets are available to support current mission requirements	Building Services	Building IT System
Amber	Not enough LAN outlets are available	Building Services	Building IT System
Red	If required, LAN outlets are not available	Building Services	Building IT System
ISR-I Component	ISR-I Sub Component	ISR-I Priority	
Supply Storage	Space Layout	High	
ISR-I Rating	ISR-I Criteria	BUILDER Category	BUILDER Sub Issue
Green	Flexible layout enhances mobility	Size/Configuration	Building Configuration
Green	Ample storage space to support mission	Size/Configuration	Building Configuration
Green	Organized shelving available	Size/Configuration	Building Configuration
Amber	Layout limits mobility throughout area	Size/Configuration	Building Configuration
Amber	Limited storage space to support mission	Size/Configuration	Building Configuration
Amber	Shelving exists, but is not enough to support mission	Size/Configuration	Building Configuration
Red	Layout restricts mobility in the area	Size/Configuration	Building Configuration
Red	Space does not meet mission needs	Size/Configuration	Building Configuration
Red	No shelving present; items on the floor block access to other storage areas	Size/Configuration	Building Configuration
ISR-I Component	ISR-I Sub Component	ISR-I Priority	
Forensic Laboratories	Laboratory Areas	High	
ISR-I Rating	ISR-I Criteria	BUILDER Category	BUILDER Sub Issue
Green	Flexible work space meets mission needs	Size/Configuration	Building Configuration

Green	Corrosion resistant stainless steel single and double sinks available	Size/Configuration	Building Configuration
Green	Has hands free eye wash/shower station	Size/Configuration	Building Configuration
Amber	Space limitations	Size/Configuration	Building Configuration
Amber	Only single stainless steel sinks available	Size/Configuration	Building Configuration
Amber	Manually operated eye wash/shower station	Size/Configuration	Building Configuration
Red	Poor inadequate layout of work space	Size/Configuration	Building Configuration
Red	Laboratory sinks are not stainless steel	Size/Configuration	Building Configuration
Red	No eye wash/shower station in immediate area	Size/Configuration	Building Configuration
Red	Cannot be verified when station last tested or that it works	Size/Configuration	Building Configuration

ISR-I Component	ISR-I Sub Component	ISR-I Priority
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Forensic
Laboratories

Fume Hoods

High

ISR-I Rating	ISR-I Criteria	BUILDER Category	BUILDER Sub Issue
Green	Hoods for hazardous and flammable reagents have audible and visual alarms	Missing/Improper Comps	Missing Components?
Green	Have automatic hood closure devices	Missing/Improper Comps	Missing Components?
Red	Hoods for hazardous and flammable reagents, no audible and visual alarms	Missing/Improper Comps	Missing Components?
Red	No automatic hood closure device	Missing/Improper Comps	Missing Components?

ISR-I Component	ISR-I Sub Component	ISR-I Priority
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Forensic
Laboratories

Lab Ventilation

High

ISR-I Rating	ISR-I Criteria	BUILDER Category	BUILDER Sub Issue
Green	Positive or negative pressurization is maintained by the HVAC system under all conditions of operation, including periods of reduced ventilation or night set-back	Comfort	Ventilation Capacity
Amber	Positive or negative pressurization works, but needs minor repairs for the system operate at peak efficiency and safety levels	Comfort	Ventilation Capacity

Red	Positive or negative pressurization in the labs is erratic and often forces suspension of operations. Major repairs to the HVAC system in the laboratories are required	Comfort	Ventilation Capacity
ISR-I Component	ISR-I Sub Component	ISR-I Priority	
Forensic Laboratories	Lighting and Electrical Outlets	High	
ISR-I Rating	ISR-I Criteria	BUILDER Category	BUILDER Sub Issue
Green	Emergency egress and exit lights work, and powered by emergency power or battery backup	Missing/Im-proper Comps	Missing Components?
Green	Grounded duplex, and GFI outlets at wet locations	Building Services	Electrical Outlets
Green	All lighting and electrical outlets are on emergency power circuits	Building Services	Electrical Outlets
Amber	Emergency egress and exit lights need repair, or there is no emergency or battery backup	Missing/Im-proper Comps	Missing Components?
Red	Emergency egress and exit lights are not in place	Missing/Im-proper Comps	Missing Components?
Red	No grounded duplex or GFI outlets at wet locations	Building Services	Electrical Outlets
Red	Lighting and electrical outlets are not tied to emergency power circuits	Building Services	Electrical Outlets
ISR-I Component	ISR-I Sub Component	ISR-I Priority	
Forensic Laboratories	Medical Gases	High	
ISR-I Rating	ISR-I Criteria	BUILDER Category	BUILDER Sub Issue
Green	Plumbed and concealed within the Lab area walls	Missing/Im-proper Comps	Missing Components?
Amber	Gas lines are external to the lab walls	Missing/Im-proper Comps	Missing Components?
Red	Portable tanks are used for lab gases	Missing/Im-proper Comps	Missing Components?
ISR-I Component	ISR-I Sub Component	ISR-I Priority	
Forensic Laboratories	Lab Refrigeration	High	
ISR-I Rating	ISR-I Criteria	BUILDER Category	BUILDER Sub Issue
Green	Has refrigerated storage, all on emergency power	Missing/Im-proper Comps	Missing Components?

Amber	Has refrigerated storage, not all on emergency power	Missing/Im-proper Comps	Missing Components?
Red	No refrigeration, or none on emergency power	Missing/Im-proper Comps	Missing Components?
ISR-I Component	ISR-I Sub Component	ISR-I Priority	
Forensic Laboratories	Joint Commission Accreditation Healthcare Organizations (JACHO) and/or College of American Pathologists (CAP) Contingencies	High	
ISR-I Rating	ISR-I Criteria	BUILDER Category	BUILDER Sub Issue
Amber	Can be resolved with special procedures		
Red	Contingencies identified; major repairs/renovation needed to resolve them		
ISR-I Component	ISR-I Sub Component	ISR-I Priority	
Forensic Laboratories	Computer / LAN System	Medium	
ISR-I Rating	ISR-I Criteria	BUILDER Category	BUILDER Sub Issue
Green	Enough LAN outlets to support mission	Building Services	Building IT System
Amber	Not enough LAN outlets available	Building Services	Building IT System
Red	Additional LAN outlets are not available	Building Services	Building IT System
ISR-I Component	ISR-I Sub Component	ISR-I Priority	
Forensic Laboratories	Telephone System	Medium	
ISR-I Rating	ISR-I Criteria	BUILDER Category	BUILDER Sub Issue
Green	Enough telephone jacks for mission	Building Services	Telephone System
Amber	Not enough telephone jacks are available	Building Services	Telephone System
Red	Additional jacks are not available	Building Services	Telephone System
ISR-I Component	ISR-I Sub Component	ISR-I Priority	
Forensic Laboratories	Signage	Low	
ISR-I Rating	ISR-I Criteria	BUILDER Category	BUILDER Sub Issue
Green	Coordinated for safety/way-finding	Access	Directional Info and Signage
Green	Doors to labs are marked with "Diamond System" identifying hazardous agents and flammables	Access	Directional Info and Signage

Green	Medical gases in the lab are marked at the lab door and identification tags are on piping in the lab	Access	Directional Info and Signage
Amber	Minimal and not clearly readable	Access	Directional Info and Signage
Amber	"Diamond System" not clearly marked	Access	Directional Info and Signage
Amber	Medical gases in the lab are not clearly marked on lab door or within lab	Access	Directional Info and Signage
Red	None, or signage is not current	Access	Directional Info and Signage

Appendix N: Army ISR-I Mapping to BUILDER Functionality Criteria, Warrior Transition Units

ISR-I Component	ISR-I Sub Component	ISR-I Priority	
Lighting		High	
ISR-I Rating	ISR-I Criteria	BUILDER Category	BUILDER Sub Issue
Green	Has Lighting for Pedestrian, signage, security, Landscaping	Access	Building Entry
Amber	No more than 1 of the 4 types of lighting in Green column missing	Access	Building Entry
Red	Two or more of the 4 types of lighting in Green column missing	Access	Building Entry
Red	No Site and Grounds lighting exists	Access	Building Entry
ISR-I Component	ISR-I Sub Component	ISR-I Priority	
Disabled Access		High	
ISR-I Rating	ISR-I Criteria	BUILDER Category	BUILDER Sub Issue
Green	ADAAG/UFAS accessible walkways	Accessibility	ABA compliance
Green	Curb ramps are present where accessible routes cross a curb	Accessibility	ABA compliance
Green	Ramps are minimum of 3 feet wide	Accessibility	ABA compliance
Green	Ramps of moderate slope, not exceeding a rise of 1:12 (one inch vertical per 12 inches horizontal)	Accessibility	ABA compliance
Green	Provides shortest accessible route to the facility	Accessibility	ABA compliance
Amber	ADAAG/UFAS accessible walkways	Accessibility	ABA compliance
Amber	Curb ramps are present where accessible routes cross a curb	Accessibility	ABA compliance
Amber	Ramps are minimum of 3 feet wide	Accessibility	ABA compliance
Amber	Ramps of moderate slope, not exceeding a rise of 1:12 (one inch vertical per 12 inches horizontal)	Accessibility	ABA compliance
Red	Does not meet AMBER column minimum conditions	Accessibility	ABA compliance
ISR-I Component	ISR-I Sub Component	ISR-I Priority	

Sites and Grounds	Turf and Pavement Drainage	Medium	
ISR-I Rating	ISR-I Criteria	BUILDER Category	BUILDER Sub Issue
Green	Surfaces are sloped to drain	Drainage	
Amber	Surfaces are not sloped to drain	Drainage	
Red	Surfaces are not draining	Drainage	
ISR-I Component	ISR-I Sub Component	ISR-I Priority	
Sites and Grounds	Paved Sidewalks	Medium	
ISR-I Rating	ISR-I Criteria	BUILDER Category	BUILDER Sub Issue
Green	Installed from parking lot to facility	Access	Building Entry
Green	Installed from adjacent streets to facility	Access	Building Entry
Green	At least 4 feet wide	Access	Building Entry
Amber	Not installed from parking to facility	Access	Building Entry
Amber	Not installed from streets to facility	Access	Building Entry
Amber	Less than 4 feet wide	Access	Building Entry
Red	Not installed at all	Access	Building Entry
ISR-I Component	ISR-I Sub Component	ISR-I Priority	
Sites and Grounds	Landscaping	Low	
ISR-I Rating	ISR-I Criteria	BUILDER Category	BUILDER Sub Issue
Green	Displays a mixture of colorful plants and greenery appropriate to the area	Aesthetics	Exterior Aesthetics
Amber	Displays few color planting or greenery	Aesthetics	Exterior Aesthetics
Red	No plantings	Aesthetics	Exterior Aesthetics
ISR-I Component	ISR-I Sub Component	ISR-I Priority	
Sites and Grounds	Dumpster	Low	
ISR-I Rating	ISR-I Criteria	BUILDER Category	BUILDER Sub Issue
Green	Screened by walls or landscaping high enough (6-8 feet) to restrict view from; building occupants, entrances, streets, parking lots	Aesthetics	Exterior Aesthetics
Green	33 feet or more away from other occupied facilities	ATFP	ATFP Requirements

Green	82 feet or more away from billeting or housing	ATFP	ATFP Requirements
Amber	Not screened by walls or landscaping sufficiently high to obscure view	Aesthetics	Exterior Aesthetics
Amber	More than 20 feet away, but less than 33 feet away from other occupied facilities	ATFP	ATFP Requirements
Amber	More than 50 feet away, but less than 82 feet away, from billeting or housing	ATFP	ATFP Requirements
Red	Not enclosed or screened from view	Aesthetics	Exterior Aesthetics
Red	Less than 20 feet away from other occupied facilities	ATFP	ATFP Requirements
Red	Less than 50 feet away from billeting or housing	ATFP	ATFP Requirements
ISR-I Component	ISR-I Sub Component	ISR-I Priority	
Sites and Grounds	Utility Services	Low	
ISR-I Rating	ISR-I Criteria	BUILDER Category	BUILDER Sub Issue
Green	All utility lines are underground	Aesthetics	Exterior Aesthetics
Green	Utility equipment is screened by landscaping or fencing	Aesthetics	Exterior Aesthetics
Amber	Utility lines are not underground	Aesthetics	Exterior Aesthetics
Amber	Utility equipment is screened by landscaping or fencing	Aesthetics	Exterior Aesthetics
Red	Utility lines and equipment are exposed and disorderly	Aesthetics	Exterior Aesthetics
ISR-I Component	ISR-I Sub Component	ISR-I Priority	
Parking	Parking Availability	High	
ISR-I Rating	ISR-I Criteria	BUILDER Category	BUILDER Sub Issue
Green	Parking spaces are provided for 70% of rooms with a minimum of 20% complying with handicap accessible parking (ADAAG/UFAS, section 502)	Accessibility	ABA compliance
Green	Curb ramps are present wherever accessible routes cross a curb	Accessibility	ABA compliance
Green	Accessible parking ramps are a minimum of 3 feet wide and have a maximum rise of 1:12 (one inch vertical per 12 inches horizontal)	Accessibility	ABA compliance
Green	Provides for shortest accessible route to the facility accessible entrance	Accessibility	ABA compliance

Amber	Parking spaces are provided for 70% of rooms, with a minimum of 20% complying with handicap accessible parking (ADAAG/UFAS, section 502)	Accessibility	ABA compliance
Amber	Curb ramps are present wherever accessible routes cross a curb	Accessibility	ABA compliance
Amber	Accessible parking ramps are a minimum of 3 feet wide and have a maximum rise of 1:12 (one inch vertical per 12 inches horizontal)	Accessibility	ABA compliance
Red	Does not meet AMBER column minimum requirements	Accessibility	ABA compliance
ISR-I Component	ISR-I Sub Component	ISR-I Priority	
Parking	Parking Area Standoff	High	
ISR-I Rating	ISR-I Criteria	BUILDER Category	BUILDER Sub Issue
Green	Parking spaces are located 82 feet or more away from occupied facilities	ATFP	ATFP Requirements
Green	Within controlled perimeters, parking spaces are located 33 feet or more away from occupied facilities	ATFP	ATFP Requirements
Red	Parking spaces are located less than 82 feet away from occupied facilities	ATFP	ATFP Requirements
Red	Within controlled perimeters, parking spaces are located less than 33 feet from occupied facilities	ATFP	ATFP Requirements
ISR-I Component	ISR-I Sub Component	ISR-I Priority	
Parking	Parking Area Lighting	High	
ISR-I Rating	ISR-I Criteria	BUILDER Category	BUILDER Sub Issue
Green	Provides direct or area lighting for: Traffic Flow, Pedestrian Movement, Signage)	Access	Directional Info and Signage
Amber	Not more than 1 of the 3 types of lighting in the GREEN column is missing	Access	Directional Info and Signage
ISR-I Component	ISR-I Sub Component	ISR-I Priority	
Parking	Parking Pavement Drainage	Medium	
ISR-I Rating	ISR-I Criteria	BUILDER Category	BUILDER Sub Issue
Green	Sloped to drain	Drainage	
Amber	Not well sloped to drain	Drainage	
Red	Not draining	Drainage	
ISR-I Component	ISR-I Sub Component	ISR-I Priority	
Parking	Parking Spaces	Medium	
ISR-I Rating	ISR-I Criteria	BUILDER Category	BUILDER Sub Issue

Green	Handicap accessible spaces are sized a minimum 96 inches wide by 16 feet long for standard parking	Accessibility	ABA compliance
Green	Handicap accessible van spaces are sized a minimum 132 inches wide by 16 feet long and have a 60 inch wide access isle	Accessibility	ABA compliance
Amber	Handicap accessible spaces are sized a minimum 96 inches wide by 16 feet long for standard parking	Accessibility	ABA compliance
Amber	Handicap accessible van spaces are sized a minimum 132 inches wide by 16 feet long and have a 60 inch wide access isle	Accessibility	ABA compliance
ISR-I Component	ISR-I Sub Component	ISR-I Priority	
Parking	Parking Signage	Medium	
ISR-I Rating	ISR-I Criteria	BUILDER Category	BUILDER Sub Issue
Green	ADAAG/UFAS compliant	Accessibility	ABA compliance
Green	Lot(s) and rows have identity signs and traffic control signs, all clearly legible	Access	Directional Info and Signage
Green	Signs provide directions from parking areas along walkways to the facility	Access	Directional Info and Signage
Amber	ADAAG/UFAS compliant	Accessibility	ABA compliance
Amber	Limited traffic control and lot/row identity signs; signs hard to read from vehicles	Access	Directional Info and Signage
Amber	Signs providing directions from parking areas along walkways to the facility are not current or are illegible	Access	Directional Info and Signage
Red	Does not meet AMBER column minimum conditions	Accessibility	ABA compliance
ISR-I Component	ISR-I Sub Component	ISR-I Priority	
Parking	Parking Landscaping	Low	
ISR-I Rating	ISR-I Criteria	BUILDER Category	BUILDER Sub Issue
Green	Displays a mixture of colorful plants and greenery appropriate to the area	Aesthetics	Exterior Aesthetics
Amber	Displays few plantings of color and greenery	Aesthetics	Exterior Aesthetics
Red	No plantings	Aesthetics	Exterior Aesthetics
ISR-I Component	ISR-I Sub Component	ISR-I Priority	
Building Exterior - General	Outside Drainage	High	
ISR-I Rating	ISR-I Criteria	BUILDER Category	BUILDER Sub Issue

Green	Outflow drains away from the building	Drainage	
Amber	Outflow ponds at the building base around splash blocks	Drainage	
Red	Outflow ponds at building base; no splash blocks	Drainage	
ISR-I Component	ISR-I Sub Component	ISR-I Priority	
Building Exterior - General	Exterior Lighting	High	
ISR-I Rating	ISR-I Criteria	BUILDER Category	BUILDER Sub Issue
Green	Provides direct or area lighting for: (Security, Pedestrian Movement, Safety and Exit Routes, Generate Exterior)	Access	Directional Info and Signage
Amber	Not more than 1 of the 4 types of lighting in the GREEN column is missing	Access	Directional Info and Signage
ISR-I Component	ISR-I Sub Component	ISR-I Priority	
Building Exterior - General	Building Exterior Signage	Medium	
ISR-I Rating	ISR-I Criteria	BUILDER Category	BUILDER Sub Issue
Green	ADAAG/UFAS compliant	Accessibility	ABA compliance
Green	Coordinated, clearly visible, and readable	Access	Directional Info and Signage
Green	Includes directions to parking, entrances, and facilities	Access	Directional Info and Signage
Green	Information is current	Access	Directional Info and Signage
Amber	ADAAG/UFAS compliant	Accessibility	ABA compliance
Amber	Not well coordinated, but readable	Access	Directional Info and Signage
Amber	Missing directories to parking, entrances, or facilities	Access	Directional Info and Signage
Red	Does not meet AMBER column minimum conditions	Access	Directional Info and Signage
ISR-I Component	ISR-I Sub Component	ISR-I Priority	
Building Exterior - General	Mechanical Equipment	Low	
ISR-I Rating	ISR-I Criteria	BUILDER Category	BUILDER Sub Issue
Green	Screened and painted to match building design	Aesthetics	Exterior Aesthetics

Amber	Unscreened, but painted to match building color	Aesthetics	Exterior Aesthetics
Red	Unscreened and not painted to match building color	Aesthetics	Exterior Aesthetics
ISR-I Component	ISR-I Sub Component	ISR-I Priority	
Building Exterior - Roof	Roof	High	
ISR-I Rating	ISR-I Criteria	BUILDER Category	BUILDER Sub Issue
Green	Walkways prevent foot traffic damage	Missing or Improper Components	Missing Components ?
Amber	Walkways are present, but there is noticeable damage to roof material	Missing or Improper Components	Missing Components ?
Red	No walkways; noticeable damage to roof material	Missing or Improper Components	Missing Components ?
ISR-I Component	ISR-I Sub Component	ISR-I Priority	
Building Exterior - Roof	Rooftop Mechanical Units	Medium	
ISR-I Rating	ISR-I Criteria	BUILDER Category	BUILDER Sub Issue
Green	Screened from view of adjacent/taller buildings. Penthouse or screens installed.	Aesthetics	Exterior Aesthetics
Amber	Screened from view of adjacent/taller buildings. Penthouse or screens in disrepair, but cannot see units.	Aesthetics	Exterior Aesthetics
Red	Not screened from view of adjacent/taller buildings. Penthouse or screens do not prevent view from adjacent/taller buildings.	Aesthetics	Exterior Aesthetics
ISR-I Component	ISR-I Sub Component	ISR-I Priority	
Building Exterior - Doors	Disabled Access	High	
ISR-I Rating	ISR-I Criteria	BUILDER Category	BUILDER Sub Issue
Green	Meets ADAAG/UFAS requirements	Accessibility	ABA compliance
Red	Does not meet GREEN column minimum requirements	Accessibility	ABA compliance
ISR-I Component	ISR-I Sub Component	ISR-I Priority	
Building Exterior - Doors	Exterior Doors	High	
ISR-I Rating	ISR-I Criteria	BUILDER Category	BUILDER Sub Issue
Amber	Hinge pins can be removed from outside	ATFP	ATFP Requirements

Red	Hinge pins are easily removed from outside	ATFP	ATFP Requirements
ISR-I Component	ISR-I Sub Component	ISR-I Priority	
Lobby	Lobby Area	High	
ISR-I Rating	ISR-I Criteria	BUILDER Category	BUILDER Sub Issue
Green	ADAAG/UFAS compliant and meets mission needs	Accessibility	ABA compliance
Green	ADAAG/UFAS accessible public restroom is provided near building entrance or lobby area	Accessibility	ABA compliance
Green	ADAAG/UFAS accessible water fountain is provided near building entrance of lobby area	Accessibility	ABA compliance
Amber	ADAAG/UFAS compliant and meets mission needs	Accessibility	ABA compliance
Amber	ADAAG/UFAS accessible public restroom is provided	Accessibility	ABA compliance
Amber	ADAAG/UFAS accessible water fountain is provided	Accessibility	ABA compliance
Red	Does not meet AMBER column minimum conditions	Accessibility	ABA compliance
ISR-I Component	ISR-I Sub Component	ISR-I Priority	
Lobby	Lighting and Outlets	High	
ISR-I Rating	ISR-I Criteria	BUILDER Category	BUILDER Sub Issue
Green	At least one electrical duplex outlet (three prong grounded) on all wall surfaces	Building Services	Electrical Grounding System
Amber	One or more walls lack grounded duplex outlets	Building Services	Electrical Grounding System
Red	No grounded duplex outlets in lobby, or	Building Services	Electrical Grounding System
ISR-I Component	ISR-I Sub Component	ISR-I Priority	
Lobby	Interior Doors	Medium	
ISR-I Rating	ISR-I Criteria	BUILDER Category	BUILDER Sub Issue
Green	Have lever handles or push-plates	Accessibility	ABA compliance
Green	Allow access by the disabled to public or work spaces in the facility	Accessibility	ABA compliance
Green	Interior doors that are also fire/exit doors, and normally in an open position, are equipped with automatic closure devices and panic hardware	ATFP	ATFP Requirements

Green	Interior doors that exit to the exterior are metal or solid core wood and open easily from the inside	ATFP	ATFP Requirements
Green	Panic hardware does not require a key or special tools to open from inside	Access	Building Egress
Amber	Allow access by the disabled to public or work spaces in the facility	Accessibility	ABA compliance
ISR-I Component	ISR-I Sub Component	ISR-I Priority	
Lobby	Computer/LAN System	Medium	
ISR-I Rating	ISR-I Criteria	BUILDER Category	BUILDER Sub Issue
Green	Enough LAN outlets are available to support current mission requirements	Building Services	Building IT System
Amber	Not enough LAN outlets are available	Building Services	Building IT System
ISR-I Component	ISR-I Sub Component	ISR-I Priority	
Lobby	Telephone System	Medium	
ISR-I Rating	ISR-I Criteria	BUILDER Category	BUILDER Sub Issue
Green	Enough telephone jacks are available to support current mission requirements	Building Services	Building Telephone System
Amber	Not enough telephone jacks are available	Building Services	Building Telephone System
ISR-I Component	ISR-I Sub Component	ISR-I Priority	
ISR-I Rating	ISR-I Criteria	BUILDER Category	BUILDER Sub Issue
Green	ADAAG/UFAS compliant	Accessibility	ABA compliance
Green	Present and current; includes a building directory	Access	Directional Info and Signage
Amber	ADAAG/UFAS compliant	Accessibility	ABA compliance
Amber	Present, but not current; does not include a building directory	Access	Directional Info and Signage
Red	Does not meet AMBER column minimum conditions	Access	Directional Info and Signage
ISR-I Component	ISR-I Sub Component	ISR-I Priority	
Elevators	Safety Standards	High	
ISR-I Rating	ISR-I Criteria	BUILDER Category	BUILDER Sub Issue
Green	Emergency power circuits for lights, speaker, telephones, and controls are present and work well	Building Services	Uninterruptible Power Supply

Green	Firefighter key control available	ATFP	ATFP Requirements
Green	Controls and signals work and accommodate the disabled	Accessibility	ABA compliance
ISR-I Component	ISR-I Sub Component	ISR-I Priority	
Elevators	Capacity	High	
ISR-I Rating	ISR-I Criteria	BUILDER Category	BUILDER Sub Issue
Green	Accommodates a mobile stretcher for medical emergencies	Size and Configuration	Building Configuration
Green	Number and size of elevators support population served	Size and Configuration	Building Configuration
Amber	Accommodates a mobile stretcher for medical emergencies	Size and Configuration	Building Configuration
Amber	Number and size of elevators support 75% of population served	Size and Configuration	Building Configuration
Red	Does not meet AMBER column minimum conditions	Size and Configuration	Building Configuration
ISR-I Component	ISR-I Sub Component	ISR-I Priority	
Elevators	Elevator Signage	Low	
ISR-I Rating	ISR-I Criteria	BUILDER Category	BUILDER Sub Issue
Green	ADAAG/UFAS compliant	Accessibility	ABA compliance
Green	In place, inside and outside the Cabs	Access	Directional Info and Signage
Green	Readable and current	Access	Directional Info and Signage
Red	Does not meet GREEN column minimum conditions	Access	Directional Info and Signage
ISR-I Component	ISR-I Sub Component	ISR-I Priority	
Corridors	Corridor Transit Area	High	
ISR-I Rating	ISR-I Criteria	BUILDER Category	BUILDER Sub Issue
Green	Meets ADAAG/UFAS accessibility guidelines and mission needs	Accessibility	ABA compliance
Green	Fire extinguishers in secure boxes	ATFP	ATFP Requirements
Amber	Meets ADAAG/UFAS accessibility guidelines and mission needs	Accessibility	ABA compliance
Amber	Fire extinguishers in secure boxes	ATFP	ATFP Requirements
ISR-I Component	ISR-I Sub Component	ISR-I Priority	

Corridors	Lighting and Outlets	High	
ISR-I Rating	ISR-I Criteria	BUILDER Category	BUILDER Sub Issue
Green	Overhead, emergency, and exit lighting is available; more than 90% is working	Access	Directional Info and Signage
Green	At least one electrical duplex (three prong grounded) outlet on all wall surfaces	Building Services	Electrical Grounding System
Amber	One or more walls lack grounded duplex outlets	Building Services	Electrical Grounding System
ISR-I Component	ISR-I Sub Component	ISR-I Priority	
Corridors	Corridor Doors	High	
ISR-I Rating	ISR-I Criteria	BUILDER Category	BUILDER Sub Issue
Green	ADAAG/UFAS accessibility to public or work spaces in the facility	Accessibility	ABA compliance
Green	Doors have lever handles or push-plates	Accessibility	ABA compliance
Green	Interior doors that are also fire/exit doors, and normally in an open position, are equipped with automatic closure devices and panic hardware	ATFP	ATFP Requirements
Green	Interior doors that exit to the exterior are metal or solid core wood and open easily from the inside	ATFP	ATFP Requirements
Green	Panic hardware does not require a key or special tools to open from inside	Access	Building Egress
Amber	ADAAG/UFAS accessibility to public or work spaces in the facility	Accessibility	ABA compliance
ISR-I Component	ISR-I Sub Component	ISR-I Priority	
Corridors	Corridor Signage	Low	
ISR-I Rating	ISR-I Criteria	BUILDER Category	BUILDER Sub Issue
Green	ADAAG/UFAS compliant	Accessibility	ABA compliance
Green	Signs are present and current	Access	Directional Info and Signage
Amber	ADAAG/UFAS compliant	Accessibility	ABA compliance
Amber	Signs are present, but not current	Access	Directional Info and Signage
Red	Does not meet AMBER column minimum conditions	Access	Directional Info and Signage
ISR-I Component	ISR-I Sub Component	ISR-I Priority	

Stairs	Landings and Treads	High	
ISR-I Rating	ISR-I Criteria	BUILDER Category	BUILDER Sub Issue
Green	Covered with non-skid material	Access	Building Egress
Green	Push plate or lever handle hardware on corridor side	Accessibility	ABA compliance
Green	Panic hardware does not require key or special tools to operate from inside	Access	Building Egress
Red	Panic hardware requires key or special tools to operate from inside	Access	Building Egress
ISR-I Component	ISR-I Sub Component	ISR-I Priority	
Stairs	Lighting and Outlets	High	
ISR-I Rating	ISR-I Criteria	BUILDER Category	BUILDER Sub Issue
Green	Exit and emergency lights are in place and working, and tied to backup power, either emergency generator or battery	Access	Building Egress
Green	If required, there is at least one GFI outlet at each floor landing	Building Services	Electrical Grounding System
Amber	Exit and emergency lights are in place, at least 75% are working, and are tied to backup power, either emergency generator or battery	Access	Building Egress
Amber	If required, there is at least one grounded outlet at each floor landing	Building Services	Electrical Grounding System
ISR-I Component	ISR-I Sub Component	ISR-I Priority	
Stairs	Signage	Low	
ISR-I Rating	ISR-I Criteria	BUILDER Category	BUILDER Sub Issue
Green	ADAAG/UFAS compliant	Accessibility	ABA compliance
Green	Present and current	Access	Directional Info and Signage
Amber	ADAAG/UFAS compliant	Accessibility	ABA compliance
Amber	Present, but not current	Access	Building Entry
Red	Does not meet AMBER column minimum conditions	Access	Building Entry
ISR-I Component	ISR-I Sub Component	ISR-I Priority	
Administrative Areas	Work Area	High	
ISR-I Rating	ISR-I Criteria	BUILDER Category	BUILDER Sub Issue

Green	ADAAG/UFAS compliant	Accessibility	ABA compliance
Green	Flexible layout; space meets mission needs	Size and Configuration	Building Configuration
Green	Sufficient storage space, close to work stations, meets mission needs	Size and Configuration	Overcrowding
Amber	ADAAG/UFAS compliant	Accessibility	ABA compliance
Amber	Space restricts aisle and workstation layout	Size and Configuration	Occupant Interaction
Amber	Marginal storage space, not close to workstations, but meets mission needs	Size and Configuration	Building Configuration
Red	Does not meet AMBER column minimum conditions	Size and Configuration	Building Configuration
ISR-I Component	ISR-I Sub Component	ISR-I Priority	
Administrative Areas	Lighting and Outlets	High	
ISR-I Rating	ISR-I Criteria	BUILDER Category	BUILDER Sub Issue
Green	At least one electrical duplex (three prong grounded) outlet at all workstations	Building Services	Building Telephone System
Green	Besides workstations, there is at least one electrical duplex outlet on all interior walls of the area	Building Services	Electrical Distribution
Amber	One or more workstations lack grounded duplex outlets	Building Services	Electrical Grounding System
Amber	Besides work stations, there is at least one electrical duplex outlet on 1 wall of the area	Building Services	Electrical Distribution
ISR-I Component	ISR-I Sub Component	ISR-I Priority	
Administrative Areas	Computer/LAN system	High	
ISR-I Rating	ISR-I Criteria	BUILDER Category	BUILDER Sub Issue
Green	Enough LAN outlets are available to support current mission requirements	Building Services	Building IT System
Amber	Not enough LAN outlets are available	Building Services	Building IT System
Red	If required, LAN outlets are not available	Building Services	Building IT System
ISR-I Component	ISR-I Sub Component	ISR-I Priority	
Administrative Areas	Telephone Systems	High	
ISR-I Rating	ISR-I Criteria	BUILDER Category	BUILDER Sub Issue

Green	Enough telephone jacks are available to support current mission requirements	Building Services	Building Telephone System
Amber	Not enough telephone jacks are available	Building Services	Building Telephone System
Red	If required telephone jacks are not available	Building Services	Building Telephone System
ISR-I Component	ISR-I Sub Component	ISR-I Priority	
Administrative Areas	Interior Doors	Medium	
ISR-I Rating	ISR-I Criteria	BUILDER Category	BUILDER Sub Issue
Green	Doors have lever handles	Accessibility	ABA compliance
Green	Allow access by the disabled to public or work spaces in the facility	Accessibility	ABA compliance
Green	Doors that exit to the exterior are equipped with fire/exit signs and panic hardware	Access	Building Egress
Amber	Allow access by the disabled to public or work spaces in the facility	Accessibility	ABA compliance
Amber	Doors that exit to the exterior are equipped with fire/exit signs and panic hardware	Access	Building Egress
ISR-I Component	ISR-I Sub Component	ISR-I Priority	
Administrative Areas	Signage	Low	
ISR-I Rating	ISR-I Criteria	BUILDER Category	BUILDER Sub Issue
Green	ADAAG/UFAS compliant	Accessibility	ABA compliance
Amber	ADAAG/UFAS compliant	Accessibility	ABA compliance
ISR-I Component	ISR-I Sub Component	ISR-I Priority	
Bathrooms/Showers	Plumbing Fixtures	High	
ISR-I Rating	ISR-I Criteria	BUILDER Category	BUILDER Sub Issue
Green	Ample hot water	Building Services	Hot Water Supply
Green	Dependable and adequate water pressure	Building Services	Building Water Supply
Amber	Lukewarm "hot" water	Building Services	Hot Water Supply
Amber	Low water pressure	Building Services	Building Water Supply
ISR-I Component	ISR-I Sub Component	ISR-I Priority	
Bathrooms/Showers	Bathrooms/Shower Configuration	High	

ISR-I Rating	ISR-I Criteria	BUILDER Category	BUILDER Sub Issue
Green	Private bathroom for each bedroom	Size and Configuration	Overcrowding
Green	All bathrooms must be sized to the ADAAG/UFAS standard	Accessibility	ABA compliance
Green	A minimum of 10% of total bathrooms in the facility are ADAAG/UFAS compliant	Accessibility	ABA compliance
Amber	Shared bathroom	Size and Configuration	Overcrowding
Amber	A minimum of 10% of total bathrooms in the facility are ADAAG/UFAS compliant	Accessibility	ABA compliance
ISR-I Component		ISR-I Sub Component	
Bathrooms/Showers		ISR-I Priority	
Bathrooms/Showers		Ventilation	
		High	
ISR-I Rating	ISR-I Criteria	BUILDER Category	BUILDER Sub Issue
Green	Ventilation integrated into forced air system	Comfort	Ventilation Capacity
Amber	Fans provided, but not integrated into forced air system	Comfort	Ventilation Capacity
Red	Does not meet AMBER column minimum conditions	Comfort	Ventilation Capacity
ISR-I Component		ISR-I Sub Component	
Bathrooms/Showers		ISR-I Priority	
Bathrooms/Showers		Lighting and Outlets	
		High	
ISR-I Rating	ISR-I Criteria	BUILDER Category	BUILDER Sub Issue
Green	All outlets grounded/GFI rated available where water may be present	Building Services	Electrical Grounding System
Amber	All outlets grounded/GFI rated available where water may be present	Building Services	Electrical Grounding System
ISR-I Component		ISR-I Sub Component	
Bathrooms/Showers		ISR-I Priority	
Bathrooms/Showers		Doors	
		Medium	
ISR-I Rating	ISR-I Criteria	BUILDER Category	BUILDER Sub Issue
Green	Fully functional, with lever handles, push plates and kick-plates	Accessibility	ABA compliance
ISR-I Component		ISR-I Sub Component	
Bathrooms/Showers		ISR-I Priority	
Bathrooms/Showers		Bathroom Accessories	
		Low	
ISR-I Rating	ISR-I Criteria	BUILDER Category	BUILDER Sub Issue

Green	Dispensers for hand soap, towels, toilet paper, disposal containers for hygiene products, etc., are present and easily accessible	Missing or Improper Components	Missing Components ?
Amber	Accessories are available, but difficult to access	Accessibility	ABA compliance
ISR-I Component	ISR-I Sub Component	ISR-I Priority	
Fire Protection	Sprinklers (Records Check)	High	
ISR-I Rating	ISR-I Criteria	BUILDER Category	BUILDER Sub Issue
Red	Local Fire Marshal requires replacement of system	Environmental/Health	Fire Suppression
ISR-I Component	ISR-I Sub Component	ISR-I Priority	
Fire Protection	Fire Alarm Systems	High	
ISR-I Rating	ISR-I Criteria	BUILDER Category	BUILDER Sub Issue
Green	Emergency notification system considers auditory and visual impairments and ensures strobe lights and audible alarms are in each living/sleeping room	Environmental/Health	Fire/Smoke Detection
ISR-I Component	ISR-I Sub Component	ISR-I Priority	
Fire Protection	Standpipe System (Records Check)	Medium	
ISR-I Rating	ISR-I Criteria	BUILDER Category	BUILDER Sub Issue
Red	No standpipe system	Environmental/Health	Fire Suppression
Red	Local Fire Marshal requires replacement of system	Environmental/Health	Fire Suppression
ISR-I Component	ISR-I Sub Component	ISR-I Priority	
Fire Protection	Smoke/Heat Sensing Detectors	Medium	
ISR-I Rating	ISR-I Criteria	BUILDER Category	BUILDER Sub Issue
Green	If required, there is a central fire control panel for the facility that indicates where in the facility a detector is sensing heat or smoke (floor, zone, ceiling space, ductwork)	Environmental/Health	Fire/Smoke Detection
Green	Alerts a Central Fire Station	Environmental/Health	Fire/Smoke Detection
Amber	If required, there is central fire control panel, but it indicates only that an alarm initiated at a particular floor or zone; ceilings, ductwork, etc., are not alarmed	Environmental/Health	Fire/Smoke Detection
Red	Though required, there is no central fire control panel for the facility	Environmental/Health	Fire/Smoke Detection
Red	Does not alert a Central Fire Station	Environmental/Health	Fire/Smoke Detection
ISR-I Component	ISR-I Sub Component	ISR-I Priority	
Lounge	Lighting and Outlets	High	

ISR-I Rating	ISR-I Criteria	BUILDER Category	BUILDER Sub Issue
Green	At least one electrical duplex outlet (three prong grounded) on all wall surfaces	Building Services	Electrical Grounding System
Amber	One or more walls lack grounded duplex outlets	Building Services	Electrical Grounding System
ISR-I Component	ISR-I Sub Component	ISR-I Priority	
Lounge	Computer/LAN System	High	
ISR-I Rating	ISR-I Criteria	BUILDER Category	BUILDER Sub Issue
Green	Internet capable	Building Services	Building Telephone System
Green	Enough LAN outlets are available to support current mission requirements	Building Services	Building Telephone System
Amber	Internet capable	Building Services	Building Telephone System
Amber	Not enough LAN outlets are available	Building Services	Building Telephone System
Red	Does not meet AMBER column minimum conditions	Building Services	Building Telephone System
ISR-I Component	ISR-I Sub Component	ISR-I Priority	
Lounge	Floors	Medium	
ISR-I Rating	ISR-I Criteria	BUILDER Category	BUILDER Sub Issue
Green	Durable floors with complete finish details	Maintainability	Equipment Maintenance
Green	Allow handicap access to public or work spaces within the facility	Accessibility	ABA compliance
Green	Doors have lever handles	Accessibility	ABA compliance
Amber	Allow handicap access to public or work spaces within the facility	Accessibility	ABA compliance
ISR-I Component	ISR-I Sub Component	ISR-I Priority	
Living Area	Living Area	High	
ISR-I Rating	ISR-I Criteria	BUILDER Category	BUILDER Sub Issue
Green	Living/sleeping area minimum 140 SF per person	Size and Configuration	Overcrowding
Amber	Living/sleeping area 90-140 SF minimum per person	Size and Configuration	Overcrowding
Red	Living/sleeping area less than 90 SF per person	Size and Configuration	Overcrowding

ISR-I Component	ISR-I Sub Component	ISR-I Priority	
Living Area	Lighting and Outlets	High	
ISR-I Rating	ISR-I Criteria	BUILDER Category	BUILDER Sub Issue
Green	At least one electrical duplex outlet (three prong grounded) on all wall surfaces	Building Services	Electrical Grounding System
Amber	One or more walls lack grounded duplex outlets	Building Services	Electrical Grounding System
ISR-I Component	ISR-I Sub Component	ISR-I Priority	
Living Area	Telephone System	High	
ISR-I Rating	ISR-I Criteria	BUILDER Category	BUILDER Sub Issue
Green	Teletype capable wiring	Building Services	Building Telephone System
Green	At least one phone jack is available	Building Services	Building Telephone System
Amber	Teletype capable wiring	Building Services	Building Telephone System
ISR-I Component	ISR-I Sub Component	ISR-I Priority	
Living Area	Computer/LAN System	High	
ISR-I Rating	ISR-I Criteria	BUILDER Category	BUILDER Sub Issue
Green	Internet connectivity available	Building Services	Building Telephone System
Green	Enough LAN outlets are available to support current mission requirements	Building Services	Building Telephone System
Amber	Internet connectivity available	Building Services	Building Telephone System
Amber	Not enough LAN outlets are available	Building Services	Building Telephone System
Red	Does not meet AMBER column minimum conditions	Building Services	Building Telephone System
ISR-I Component	ISR-I Sub Component	ISR-I Priority	
Living Area	Doors	High	
ISR-I Rating	ISR-I Criteria	BUILDER Category	BUILDER Sub Issue
Green	Allows handicap access to public or work spaces within the facility	Accessibility	ABA compliance

Green	Doors have lever handles	Accessibility	ABA compliance
Amber	Allows handicap access to public or work spaces within the facility	Accessibility	ABA compliance
ISR-I Component	ISR-I Sub Component	ISR-I Priority	
Living Area	Floors	Medium	
ISR-I Rating	ISR-I Criteria	BUILDER Category	BUILDER Sub Issue
Green	Durable floors with complete finish details	Maintainability	Equipment Maintenance
ISR-I Component	ISR-I Sub Component	ISR-I Priority	
Living Area	HVAC Controls	Medium	
ISR-I Rating	ISR-I Criteria	BUILDER Category	BUILDER Sub Issue
Green	Each sleeping area has individual climate controls	Comfort	HVAC Controls
Amber	10% or more of sleeping area has individual climate controls	Comfort	HVAC Controls
ISR-I Component	ISR-I Sub Component	ISR-I Priority	
Kitchenette	Kitchenette	Medium	
ISR-I Rating	ISR-I Criteria	BUILDER Category	BUILDER Sub Issue
Green	Standard kitchen with range, microwave oven, garbage disposal, standard size refrigerator, and counter seating	Size and Configuration	Overcrowding
Green	Kitchen for disabled Soldier meets accessibility requirement	Accessibility	ABA compliance
Green	Space meets mission needs	Size and Configuration	Overcrowding
Amber	Kitchen or kitchenette provided, but does not meet GREEN column minimum conditions	Accessibility	ABA compliance
Red	No Kitchen or Kitchenette provided	Missing or Improper Components	Missing Components ?
ISR-I Component	ISR-I Sub Component	ISR-I Priority	
Kitchenette	Plumbing Fixtures	High	
ISR-I Rating	ISR-I Criteria	BUILDER Category	BUILDER Sub Issue
Green	Lever actuated faucets	Accessibility	ABA compliance
Green	Ample hot water	Building Services	Hot Water Supply
Green	Dependable and adequate water pressure	Building Services	Building Water Supply
Amber	Lever actuated faucets	Accessibility	ABA compliance

Amber	Lukewarm “hot” water	Building Services	Hot Water Supply
Amber	Low water pressure	Building Services	Building Water Supply
ISR-I Component	ISR-I Sub Component	ISR-I Priority	
Kitchenette	Lighting and Outlets	High	
ISR-I Rating	ISR-I Criteria	BUILDER Category	BUILDER Sub Issue
Green	All outlets grounded/GFI rated available where water may be present	Building Services	Electrical Grounding System
Amber	All outlets grounded/GFI rated available where water may be present	Building Services	Electrical Grounding System
ISR-I Component	ISR-I Sub Component	ISR-I Priority	
Kitchenette	Cabinets and Countertops	High	
ISR-I Rating	ISR-I Criteria	BUILDER Category	BUILDER Sub Issue
Green	ADAAG/UFAS accessible cabinets and countertops are provided when space is identified as ADAAG/UFAS accessible room module	Accessibility	ABA compliance
Green	Ample space is provided	Missing or Improper Components	Missing Components ?
Amber	ADAAG/UFAS accessible cabinets and countertops are provided when space is identified as ADAAG/UFAS accessible room module	Accessibility	ABA compliance
Amber	Limited space is provided	Missing or Improper Components	Missing Components ?
ISR-I Component	ISR-I Sub Component	ISR-I Priority	
Kitchenette	Appliances	High	
ISR-I Rating	ISR-I Criteria	BUILDER Category	BUILDER Sub Issue
Green	Include a refrigerator/freezer and microwave	Missing or Improper Components	Missing Components ?
Amber	Include a refrigerator/freezer and microwave	Missing or Improper Components	Missing Components ?
ISR-I Component	ISR-I Sub Component	ISR-I Priority	
Kitchenette	Doors	Medium	
ISR-I Rating	ISR-I Criteria	BUILDER Category	BUILDER Sub Issue
Green	ADAAG/UFAS compliant	Accessibility	ABA compliance

Green	Fully functional, with lever handles, push plates and kick-plates	Accessibility	ABA compliance
Amber	ADAAG/UFAS compliant	Accessibility	ABA compliance
Amber	Lever handles, push plates, or kick plates are chipped or worn	Accessibility	ABA compliance
ISR-I Component	ISR-I Sub Component	ISR-I Priority	
Kitchenette	Ventilation	Medium	
ISR-I Rating	ISR-I Criteria	BUILDER Category	BUILDER Sub Issue
Green	Ventilation integrated into forced air system	Comfort	Ventilation Capacity
Amber	Fans provided, but not integrated into forced air system	Comfort	Ventilation Capacity
ISR-I Component	ISR-I Sub Component	ISR-I Priority	
Laundry Room	Plumbing Fixtures	High	
ISR-I Rating	ISR-I Criteria	BUILDER Category	BUILDER Sub Issue
Green	Ample hot water	Building Services	Hot Water Supply
Green	Dependable and adequate water pressure	Building Services	Building Water Supply
Amber	Lukewarm "hot" water	Building Services	Hot Water Supply
Amber	Low water pressure	Building Services	Building Water Supply
Red	No hot water	Building Services	Hot Water Supply
Red	Very low water pressure	Building Services	Building Water Supply
ISR-I Component	ISR-I Sub Component	ISR-I Priority	
Laundry Room	Lighting and Outlets	High	
ISR-I Rating	ISR-I Criteria	BUILDER Category	BUILDER Sub Issue
Green	All outlets grounded/GFI rated available where water may be present	Building Services	Electrical Grounding System
Amber	All outlets grounded/GFI rated available where water may be present	Building Services	Electrical Grounding System
ISR-I Component	ISR-I Sub Component	ISR-I Priority	
Laundry Room	Washers and Dryers	High	
ISR-I Rating	ISR-I Criteria	BUILDER Category	BUILDER Sub Issue
Green	1 washer and 1 dryer per room module, or	Missing or Improper Components	Missing Components ?

Green	Large capacity washer and dryers in a shared laundry at minimum ratio of 8:1 (washers) and 6:1 dryers	Missing or Improper Components	Missing Components ?
Amber	1 washer and 1 dryer per room module, or	Missing or Improper Components	Missing Components ?
Amber	Large capacity washer and dryers in a shared laundry at minimum ratio of 8:1 (washers) and 6:1 dryers	Missing or Improper Components	Missing Components ?
ISR-I Component	ISR-I Sub Component	ISR-I Priority	
Laundry Room	Ventilation	High	
ISR-I Rating	ISR-I Criteria	BUILDER Category	BUILDER Sub Issue
Green	Dryers vent to the building exterior	Comfort	Ventilation Capacity
Green	Ventilation integrated into forced air system	Comfort	Ventilation Capacity
Red	Does not meet GREEN column minimum conditions	Comfort	Ventilation Capacity
ISR-I Component	ISR-I Sub Component	ISR-I Priority	
Laundry Room	Doors	Medium	
ISR-I Rating	ISR-I Criteria	BUILDER Category	BUILDER Sub Issue
Green	ADAAG/UFAS compliant	Accessibility	ABA compliance
Green	Fully functional, with lever handles, push plates and kick-plates	Accessibility	ABA compliance
Amber	ADAAG/UFAS compliant	Accessibility	ABA compliance
Amber	Lever handles, push plates, or kick plates are chipped or worn	Accessibility	ABA compliance
ISR-I Component	ISR-I Sub Component	ISR-I Priority	
Laundry Room	Scrub Sinks	Medium	
ISR-I Rating	ISR-I Criteria	BUILDER Category	BUILDER Sub Issue
Green	Lever actuated faucet	Accessibility	ABA compliance
Green	Equipment scrub designated space available	Size and Configuration	Overcrowding
Amber	Lever actuated faucet	Accessibility	ABA compliance
Red	Does not meet AMBER column minimum conditions	Accessibility	ABA compliance

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14. ABSTRACT <p>This report describes the process for identifying building functionality criteria and assessing the functional capability of Army facility real property. The criteria are to be incorporated into a process to measure the functionality and performance of existing Army buildings for support of sustainment, restoration, and modernization (SRM) decisions. This process is based on a general functionality assessment framework developed for the BUILDERTM Sustainment Management System (SMS). BUILDER includes an algorithm and procedure for calculating a building functionality index (FI) based on a predefined set of criteria. The FI indicates any decrease in building performance due to technical obsolescence, user requirement changes, or new codes or standards. These generalized criteria are supplemented with Army-specific criteria based on current Army Standards and Army Standard Designs. In addition, facility functionality-related criteria from the Army Installation Status Report for Infrastructure (ISR-I) are identified and mapped to BUILDER criteria. This linkage provides a way to exchange information between ISR-I and BUILDER, creating the technical basis for an integrated facility management environment. This report presents the results of the work and offers recommendations pertaining to future integration efforts.</p>					
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